THE AMERICAN FARMER
ESTABLISHED 1819

NINTH SERIES. BALTIMORE, MD., DECEMBER 15, 1884. VOL. III.—No. 24.

Johnson Grass.

Hubert Post, of Dallas county, Alabama, contributes the following to the *Breeder's Gazette:*

In 1878 the Johnson grass was sold in Iowa and adjoining States under the name of Green Valley grass, and sold at $15.00 per bushel. It has also been called Guinea grass, St. Mary's grass, Jamaica grass, Means grass, Cuba grass, Egyptian grass, and its popularity will probably this or next season start it out under a new name; but nevertheless it is the Johnson grass (*sorghum halapense*) which received its name from the man who brought it here about forty years ago. It is thus described by two of our leading botanists of the South. Dr. D. L. Phares, of the Mississippi Agricultural College, says: "It seems pretty well agreed to now call what has been called Guinea grass, Johnson grass, and leave the name Guinea grass for the *panicum jumetorum*, to which it properly belongs. Johnson grass is perennial, and has cane-like roots, or more properly underground stems, from the size of a goose-quill to that of the little finger. These roots are tender, and hogs are fond of and thrive on them in winter. The roots literally fill the ground near the surface, and every joint is capable of developing a bud. One bushel of the extra cleaned seed is sufficient for one acre of land.

"The leaf, stalk and panicle of this grass resemble those of other sorghums. It grows in any land where corn will grow, and like the latter, the better the land the heavier the crop. On rich lands the culms attain a size of one-half an inch in diameter and a height of seven feet. It should be cut while tender, and then live stock are fond of it, for a few weeks are sufficient to render it so coarse and hard that animals refuse it or eat it sparingly."

Hon. J. B. Killebrew, commissioner of agriculture for Tennessee, in his "Grasses of Tennessee," says: "The Johnson grass rises with a stem from four to twelve feet high, according to the soil in which it grows; erect, smooth, leaves linear, flexuous, graceful, curling down at the end like corn, flowers in a panicle at the top; at first green, changing gradually to a yellow; when ripe, a dark brown. When young it is very tender and sweet, the pith being full of sugary juice. The leaves are as large as corn fodder and very nutritious. It has a perennial root, and so vigorous that when planted it is a difficult matter to eradicate it, so care must be taken to plant it where it is not to be disturbed. The roots are creeping and throw out shoots from every joint. It is a fine fertilizer, and sown on a piece of poor, washed land, will in a few years restore it to its primitive fertility. But there is really not much difference where it is sown, for a farmer once getting a good stand will not want to destroy it. It will bear cutting three or four times a year, and in fact it has to be done, for when it matures its seed the stem and leaves are too coarse and woody for use. The ground must be well prepared, as for other grasses, and in August or September let it be sown one bushel of the extra cleaned seed per acre. It gives the earliest pastures we have, preceding blue-grass and clover a month. Hogs are fond of the roots, and any amount of rooting in it will not injure it. In fact it is a stick-tight. It not only thrives well on bottoms, but it will grow just as well on upland, and though poor upland will make but little hay, yet it makes fine pasture. It disappears in the winter altogether, but the first warm weather brings it up, and it grows with astonishing rapidity. On our lands and in our climate (Tennessee), it will grow from five to seven feet high, while in South Carolina it will grow twelve feet high.

"For soiling purposes it is not equaled by any grass in our knowledge, as it can be cut every two or three weeks. Many persons object to it on account of its great tenacity of life, matting the soil in every direction with its cane-like roots, and the rapidity with which it will spread over a field, and the difficulty of eradicating it. But these very objections should be its recommendation to owners of worn-out fields; and if it is desired to destroy it, it is only necessary to pasture it closely one year, and then in the fall turn the roots up with a big plow to the freezes of a winter, renewing the breaking up once or twice during the winter and then cultivating the next spring."

In a letter published in the *Rural Carolinian* for 1874, Mr. N. B. Moore (now deceased), who had for more than forty years grown only grass crops, speaks of this grass as Guinea grass. He says he prefers it to all others having faithfully tried many. It is perennial; is as nutritious as any other; when once well set is difficult to eradicate; will grow on ordinary lands and yields abundantly. It is said Mr. Moore's income from one hundred acres was from seven to ten thousand dollars per annum.

Mr. Goelzel, of Mobile, says: "It is undoubtedly the most profitable soiling plant yet introduced, and also promises to be the plant for our Southern hay-stacks, provided it can be cut every three or four weeks."

Mr. John J. Delchamps says, in the *Rural Carolinian* for 1874, that he cut from one square yard of land, accurately measured (and it was a fair average of the entire plot in grass), six pounds and three and one-fourth ounces of dry hay. Reckoning the acre at 4,840 square yards, the result is over fifteen tons of dry hay to the acre—twelve days' growth being lost by an accident, and the season not a favorable one. I dug the roots from the same square yard of ground in January, and the weight was two pounds and ten ounces, equal to 6.45 tons per acre. Hogs devour these roots as eagerly as sweet potatoes. Six and one-half tons of hog feed and fifteen tons of good hay I should regard as a very good result from one acre of land. It may be well to add that on the square yard of ground from which I dug the roots the grass is as thick now as on any other part of the plot. Two pounds and a half of dry hay per square yard gives the first cutting 12,000 pounds, or six tons. Well may another writer exclaim: "If you want grass, a grass, the grass, and have rich land, this is just the thing to fill the bill."

For a grass for both grazing and for hay it has no equal. A writer in the *Texas Farm and Ranch* says: "It has been successful in some of the dryest sections of this country on all kinds of soil, even alkali, and it will grow with less moisture than any other grass. For hay it is second to no other grass, its yield is simply enormous and that of an excellent quality. It equals blue-grass or timothy in milk and fat-producing qualities." It has been supposed, from the fact of its first being planted in the South, that it would not do well in the northern part of our country. This is a mistake, for during the winter of 1880–81, the coldest for years, while the ground was frozen to the depth of two feet the grass was not injured. Herewith is the experience of Mr. A. Hollingsworth, of Winfield, Kan. He says: "You ask me for my experience with Johnson grass. It is about as follows: When located in Edwards county, in Southwestern Kansas, the winter of 1879, I sent to you for a small amount of seed, but it was delayed on the way and failed to reach me until about the middle of April, 1880. There had been no rain for seven months, the ground was hard and dry and could not be plowed, so I weighted down my harrow, but with little or no effect, but I sowed the seed. Several hundred head of sheep and a number of cattle crossed over it four times a day all summer, still no rain came until June. What seed had not blown away germinated, and continued to grow, but was eaten down as fast as it showed above the ground, the sheep pawed the ground to get below the level. Still there was no die to it, the roots penetrating the ground ten or twelve inches deep. A few seeds that found lodgment in the corn fields sent out sixty to seventy shoots from two to six feet high and would measure at least two feet in diameter in the bunch. In the fall I fenced in the strip to see if it would winter kill, and it had a grand test, as it was the most severe winter I had experienced in Kansas.

In the spring of 1881 I found that the cold winter in which my water pipes—which were twenty inches deep—were frozen, had not affected the plant. I then put in ten acres, and with another dry season it made a fine growth, and I cut ten tons of hay off from five acres and let the other five seed and then whipped it off to thicken the growth, and then pastured it down.

All kinds of stock devour it with great relish, either as hay or in pasture. With proper care and seeding three tons can be cut to the acre the first season, by cutting in June and August. I shall in my new location sow twenty acres next spring, and have not the least fear of splendid success in this locality. To get the best results it should be sown about the middle of August. I am satisfied that it is the grass for Kansas above all others, and intend to sow 100 acres as soon as I can. The only objection possible is it is so very hard to get out. It has to be cut green, then plowed three times the first season, and what seed take root the next must be dug out to prevent seeding again. This is to me its greatest recommendation. Kansas wants some kind of tame grass that can be gotten in. We have quite enough that can be gotten out too easily."

This gentleman's experience has proven that we have in the Johnson grass just what is wanted on the Western plains, where rains are infrequent, and months come and go without the necessary moisture for other crops. No grass stands the drouth as well, because its long roots will find moisture no matter how deep it will have to go.

This grass is bound to come into almost universal use North, East, South and West, because it will supply a long felt want. Messrs. Paige & Morton, of Tulare county, California, say they have 250 acres of Johnson grass which they consider of greater value than another field containing 500 acres of alfalfa. Texas is sowing it very largely, as experience has taught them that they can find nothing so valuable to take the place of the native grasses which are disappearing rapidly. The hay, when the grass is cut when in bloom, and properly cured, is unequaled by timothy or any other hay. The hay contains so much saccharine that all kinds of stock are fond of it. When sown too thin it will grow up in tussocks, but with one bushel to the acre of the extra cleaned seed it will have a good stand. When it first comes up it looks much like young corn, if the nights and mornings are cool it is purple, but when the days get warm it assumes a beautiful green.

Allow me a correction in your article which leaves a false impression. "It may be cut three to six times per year, and makes from four to eight tons of hay per cutting." Let it read four to eight tons of hay *per annum*. While on some lands it may equal your statement, it is not best to so publish it. A letter from Monterey, Mex., tells me they commence cutting it in March and cut it eight times a year.

I have quoted from others who have no object in making false impressions, and trust this article may place this valuable grass in its true light before the world.

Agricultural Fairs.

The Editor of the *National Live Stock Journal* thus discourses on this topic: In former years these annual gatherings were the principal neighborhood, and county, and state occasions of reunion; no other meetings brought together so generally the farmer and denizens of the city, as well as the fruits and products of the country and the articles of manufacture of the towns and cities. This has been materially changed by the march of civilization. County fairs are no longer the chief means of advertisement. Horticultural associations have largely taken away from the county fairs the beauty and richness of flower and fruit displays, while expositions that have become established institutions in many of the larger cities of the West have robbed them of the great

mechanical exhibitions that once constituted some of their most useful and instructive attractions. Even the farmers have ceased to make entries of the articles peculiar to their own industries. Rarely now are to be seen displays of generous rolls of delicious butter, while the vegetables of their gardens, the apples and pears of their orchards, and the quilts and embroideries of their wives and daughters, have long since ceased to make their appearance in any creditable amount. The county fairs of to-day are displays of chickens, cattle, sheep, hogs and horses. Just as you approach the borders of the large cities, the chickens, hogs, and sheep disappear, and fancy cattle and fine horses predominate. The county fair is fast losing its old-time attractiveness of harvest-home festivals. Country maidens and country lads rarely now walk hand in hand over the grounds and around the outer promenades of the amphitheatres, for they assume the modesty of more artificial society. The glory of the primitive county fair has also in part been taken away by the general circulation of newspapers and commercial travelling agents; by the rapid transit of the railroad, and the more rapid communication of the telegraph. If the farmer desires any information on any subject pertaining to stock and farm implements, or to grain and fruits, the land now so teems with agricultural and stock journals, that he consults their columns rather than repair to the county or State fairs for the desired knowledge. Even the horse and cattle displays are not now sufficient attractions to keep up the large public patronage in some localities, and the county fairs not only languish in their treasuries, despite the fact that some of them are partially supported by statutory contributions, but they are looking to other attractions to lure popular interest. Thus, in Philadelphia a bench show is advertised as one of the departments of the fair, although it would be difficult to maintain the propriety of such an exhibition outside of the hunting dog as the farmer's companion in his leisure strolls in search of game; the watch dog for the safety of his property at night; the terrier to exterminate the greatest enemy of his granaries, the rats; and the shepherd to save him many weary steps in herding his sheep and cattle. Dog shows have lately become popular as a fashionable sensation. Ladies of social quality not only attend bench shows, and put up with the whines, and howls, and growls of the imprisoned canines, but enter their favorite dogs for premiums in their respective classes, with all the enthusiasm of personal contention for rewards of merit. We have no objection to this addition to the county fairs. Like all other kindly-disposed people, we are pleased with the wag of the dog's tail, and return, with unconscious kindness, his unwavering loyalty; but the entrance of dogs for premiums certainly measures the decadence of the genuine old-fashioned county fairs.

Horses in the greater, and cattle in the lesser degree, still hold their places; but the demands upon their quality must be more scientifically drawn, or they, too, will lose their attractiveness. The time is at hand when *pedigree will be supreme*, and this is eminently proper. No horse, or bull, or cow should be allowed to compete unless the certified pedigree of his breeding accompanies the animal. One of the great necessities of county fairs is to determine superiorities in breeding, and, unless the certificate of breeding is ascertained beyond question, there is no such thing as an intelligent award. Frequently the premium is bestowed upon a mongrel-bred animal, while the owner of the pure-bred animal is sent home without any award. This unjust disparagement not only injures the county fair, but discourages the owner of high-bred stock from any further attempts to elevate the standard of the fair. We do not intend to disparage the entry of animals, either mongrel-bred or without pedigree; all types of high-bred horses and cattle were originally obtained by crosses that would not, in the first instance, be eligible for entrance in any distinctive registry. Such mongrel-bred animals may, therefore, have superior excellence, but that excellence should be recognized in grades that do not conflict with pedigreed classifications. For instance, the Jersey cow or bull without pedigree may be so classified, but he or she should not be permitted to compete with those whose standing in the registry of the American Jersey Cattle Club shows them to be pure in blood traceable directly to the Channel Islands. Undoubtedly such an unpedigreed Jersey can have an infusion of other blood that will escape detection, especially if it has bred back in appearance to the Jersey peculiarities. It is equally undeniable that such an animal may have superior qualities. It may be larger in size, or, if a cow, it may be a more generous milker. All these excellences can be just as favorably rewarded in a special mongrel classification, or in the sweepstakes ring. This discrimination would not only be truthful, and exact justice to pure-bred Jerseys, but it would be correct in the line of progressive breeding. This conclusion is obvious on a moment's reflection. If certain out-crosses have produced a greater flow of milk and a larger yield of butter than is derived from a pure-bred Jersey, then the breeding public should have the benefit of such facts by the intelligent awards at our county fairs.

This is the fundamental error in awarding premiums, but it does not exhaust the catalogue of errors. This is pre-eminently the age of scientific breeding. All grades of live stock are being reduced to fixed types, in which the desired excellence is intensified so as to make that animal, when subjected to stringent tests, superior to all other animals that have, in a modified degree, the same qualities. The county fair should, in all cases, contribute its quota to elevate the standard of scientific breeding. Referring to the Jersey for illustration, the desirable points in color, shape, markings, and appearance that have been approved by registers, should be laid down as the rules for the guidance of both owner and judges in the award of premiums. This award of merit should not depend upon the supposed experimental or intuitive knowledge of the judges. It is beyond cavil that the strongest-minded man will rule the other judges in their decision. The strongest-minded man may, in fact, know the least, or be dominated by favoritism or prejudices that disqualify him from giving an intelligent opinion. All these errors should be guarded against by certain strong, simple, comprehensive rules upon which the award is to be made, *just as a righteous jury renders a verdict upon both the law and the evidence.* Then, and then only, will pure pedigreed animals receive full and just consideration. Then the exhibition of the highest grade of cattle, hogs, and sheep will be encouraged at our county fairs, and then the great mass of the populace will be induced to patronize the fairs thus systematically conducted. But the tests should not end with a mere inspection of form and pedigree so far as relates to the milch cow, even if it is amply satisfactory in the case of the sheep and the hog. Special premiums should be given for practical tests upon the ground. The actual yield in butter or cheese-producing milk, the weight and quality of wool clipped, and the live weight of the hog at specified ages, should be determined by the judges as vital points in making up the awards. All these tests would excite rivalry among owners, and deepen the public interest till the county fair would become one of the features of popular excitement for many miles of territory. But the qualifications of the judges should not be overlooked in this general reformation of our county fairs. Men of experience and knowledge in the several departments should be selected in advance, and not picked up hap-hazard on the ground from the audience. Moreover, the names of the men thus selected should be presented at a meeting of the full board of directors on the mornings of the days for display of these classes, and all disqualified or unworthy men should be discarded. *Nor should any man who has made an entry in any department be eligible to act as judge in any other department.* In this way only can be prevented the gratification of private grievances and the satisfaction of personal animosities that frequently mar our county fairs, and rob meritorious animals of their just premiums. For instance, the owner of a superior Jersey may place the ribbon of honor upon the horse of some owner in the draught ring, to the disappointment of the owner of an entry in the same class. To-morrow the disappointed horse-owner is selected as judge in the Jersey classification, and he accordingly takes great satisfaction in deciding against the Jersey of his enemy in the horse ring of yesterday.

Thus animosities are engendered among owners, and injustice is done to animals, by permitting any one to act as a judge that has become an applicant for premiums in any department of the fair. When it is practicable, the most impartial justice is done when the judges are selected from a distance, and are entire strangers, not only to the owners of the entries, but to each other.

In all the matters, the greatest drawback to success is the want of concert in action in the management of various fairs. There should be a Fair Congress, embracing the directors of at least an entire state, if not of several contiguous states. This board of appeal should codify the rules for entries and the award of premiums, and finally decide all disputes, just as the trotting horse interests of the country have been systematized and protected till they have grown into colossal yet symmetrical proportions. Then our county fairs would again come into prominence as places of interest and instruction and authority, such as they have never been in the past.

There is no denying the fact that the horse element, especially at fairs contiguous to the large cities, is monopolizing the greatest interest. The show rings for light harness and coach and draught horses are always well filled. Proverbially, in all these departments unsound horses have been rewarded, although the rules governing the majority of our county fairs expressly forbid the conferring of premiums upon unsound animals. Such horses should be sent out of the ring as permanently disqualified for competition, and compliance with this rule should be exacted from the judges.

The object of the fair is the encouragement of the breeding of superior animals, without fault or blemish; and no horse afflicted with chronic blemishes should be permitted to compete with sound animals. In all departments of the horse display, actual tests are not only practical, but they would be intensely interesting to the spectators. Not only should trotting horses compete with each other in the speed rings, but light harness horses should vie with each other, single and in pairs, in light harness, and coach horses in carriages, while draught horses should be pitted against each other in overcoming draught burdens before the assembled spectators. Such a spectacle would draw a thousand people, intensely interested where ten, now, attend the fairs, and that, too, with languid interest. But in all the horse departments, the trotting horse carries off the large premiums, because he is the greatest favorite of the people. Notwithstanding his production in increased proportions every year, he still commands a larger price every succeeding season, till it has come to pass, even in these times of unusual depression of commercial interests, that the highest price ever paid for a trotting horse Mr. Robert Bonner has just given for the queen of trotters—the peerless Maud S. The premiums for trotting races are increasing every year. The time made at the fair races is being lowered every season, and the fields of horses are not only enlarged, but their grade is much higher than adorned the county fairs ten years ago.

The proportions thus assumed by our fair races demand more stringent regulations. The tracks should be laid out, with reference to stretches and turns, as near to the requisites of first-class courses as the topography of the land renders possible. The entries should be carefully criticised. The disgrace at our county fairs is the appearance of old turf horses with disqualifying records, known as "ringers," contending with horses honestly entered, and contesting, in vain with these superior campaigners.

Our fair management, as constituted at present, is powerless to reform these and many other abuses. Their only remedy is to join the National Trotting Association, which would not only lift them into national importance, but clothe them with authority to adequately punish all fraudulent entries, and conduct the races upon authoritative and systematic regulations.

The time is not far distant when the county and state fairs will be the leading places of competition in trotting contests. These fairs seem to be the compromise grounds upon which all classes of people, the church communicants as well as the citizens of the world, can meet together to enjoy the one supreme national amusement of America, that of fairly-contested trotting races.

It therefore becomes the managers of our county fairs not only to become an integral portion of the national trotting congress, but to throw around this exhilarating pastime all the guards of honesty and responsibility that the moral sense of the body politic tacitly demands. When these precautions are enforced, our county fairs will become more popular than has ever been the case in their history heretofore.

Farming Matters in France.

From our Correspondent in Paris, November 29.

THE STATE OF AGRICULTURE.—The agricultural interest is for the moment wholly absorbed with the question of protection. It is a specially complicated one in France, because a good one-third of the cultivators live by their vineyards and depend on exportation chiefly for sales. Naturally they conclude, if France taxes out the products of foreigners—corn, flour, meat, wool, etc.,—the latter will retaliate. Then all farmers stand in need of cheap meat for their servants, and the latter having no longer the simple tastes of their forefathers, exact food, clothing and fashions in harmony with the epoch.

I do not mean to be understood as lamenting the amelioration of farm servants, nor of their employers. I only note the causes which enhance the price of and at the same time augment the wants of life. Formerly in France the farmer, his children and his servants constituted a sole family. They took their meals in common, and their clothing differed but little. Now all is changed; the farmer has his separate table; and if his fare be no longer homely, neither is the hodden grey so universal. His wife and daughters in the matter of toilettes, model Parisiennes, and the maids tread, with respect to costumes, on the heels of their mistresses.

The expense of living is thus increased

all round, while the receipts from culture are stationary, if not diminished. The general taxation has been running up, and processes of culture are slow to adopt modern improvements and scientific aids. American and English agricultural implements and machinery are superior and cheaper to French manufactured; keeping them out of the country by higher import duties cannot be a boon for the farming community. France consumes annually 275 millions bushels of wheat and 367 millions bushels of other cereals in additon to 1½ millions tons of meat of all kinds. Caution is required in dealing with whatever may affect the supplying of such a national larder. The prospects of the campaign so far are favorable to the protectionists.

Sully, the great statesman under Henri IV, said: "All flourishes in a realm where agriculture flourishes." At the present moment in France only the wealthy proprietors and large farmers appear capable of riding out of the gale. The very small holders are selling their plats, and the tenant classes are throwing up their leases, made mostly in France for six years. The value of land itself has fallen 30 per cent. in several regions, and in others a refuge is being sought by laying down farms in pasture. It is the suddenness of the crisis which has aggravated the situation, and, to show its painful effect, the *métayers* will fully serve the purpose.

A *métayer* is a farmer who enters into partnership with the proprietor of the land; they go halves in the profits; the owner supplies certain portions of the stock as a set off to the labor of the métayer and his family; other portions are furnished by the proprietor, the value of some being brought to general account as capital. Now, so unexpected has been the arrival of the lean kine, and so continued their existence, that at the end of the year, not only nothing is available for dividing, but the métayer finds himself a debtor. This explains why so many prefer to return to the condition of farm laborer. But there is a more cruel side to the history of this arrangement. The métayer, out of his profits, speculated in buying a farm, mayhap the one in which he is still an associated cultivator. He purchased when prices were at a fancy standard, for he concluded, by rigid industry and a frugality akin to parsimony, he would cover and liquidate his responsibility in a few years. But he has been caught by the hard times; he has been forced to borrow money, to mortgage his instalments till the moment arrived—which is now—when he has not even the means to meet the interest. This collapse affects the younger generation of agriculturists, who, like all youth, suspects it will escape rainy days, and, having no longer the Spartan ideas of their fathers, their savings have been less. Such is the true and unbrilliant situation of French agriculture.

It remains to be seen, if adding a tax of 2 or 3 fr. per cwt., to keep out the cereals and flours of America, Australia and India will give a fillip to wheat farming in France. The tendency spreads for pasture lands and milk industries, or the production of hay. Beet in the sugar regions ought now to pay, since the government accords bounties to the refiners, and farmers are more satisfied with prices. German sugar continues to fiercely compete with home produce.

Beets and Sugar.—Attention has been drawn to the circumstance that in pushing farmers to cultivate a special and uniform variety of beet, manufacturers are not acting wisely. In Germany, where the root has from one to two per cent. a higher yield of sugar than French beet, growers seek first of all the variety that suits their soil. To discover this, German farmers test several seeds on special experimental patches of soil. As a rule, the root that goes deepest into the soil and does not collar above ground, of which the substance or "flesh" is very firm and the skin very red, will be found to be richest in sugar and purest in juice.

Dr. Koning, of Munster, has made known the results of his analyses of beet pulp derived from the diffusion process in a fresh and in a dry state. He operated on 2½ tons of the fresh pulp, from which he obtained 6 cwts. of dried stuff. The practical results corroborate those obtained by Maercker, namely, that it is more advantageous to employ the pulp in the dessicated state than when preserved in silos in the fresh condition with the loss consequent on the acidulous fermentation.

Green Crops and Live Stock.—In 1858, M. de Trogundy purchased at Plouaret, in the north of France, a property of 500 acres; it was a valley, half marsh, half underwood; he drained and redrained; tried several systems of culture, till at last he "struck ile." He resolved to cultivate only green crops and fat stock and very little cereals. Thus in 1871 he produced, through stock, at the rate of 3 cwts. of meat per acre, and in 1880 nearly double that amount. The forage crops on which he relies, and sown to come into use in due season, are rape, rye, raygrass, crimson and ordinary red clovers, cabbage—the lion and thousand headed varieties—and furze or whins. Beet and turnips follow in his rotation, and yield 30 to 35 tons per acre; the cabbage from 25 to 30 tons.

The Culture of Cabbage.—There is a tendency to cultivate cabbage more extensively than hitherto for cattle feeding. It is a very profitable crop near large towns for culinary purposes. No vegetable can be healthier; it is very rich in potash. In France a very nutritive soup is prepared with cabbage, potatoes, bread and a little bacon. The French always give, in cooking cabbage, a good preliminary scald; this first water deprives it of much of its strong flavor. In the lands watered by the Meuse and the Rhine, and their tributaries, immense plains of rich, argillaceous and marshy soil are cropped with cabbage, destined to prepare sourkraut or *chou-croute;* in other words, fermented cabbage, of which more anon. A good, white, close, cannon ball-hardness of head is aimed at. In February, a plot of 120 square yards in the kitchen garden or a home field is well prepared and manured; 3½ ounces of seed is sown broadcast and raked in, the whole being covered with a slight coating of well decomposed straw manure to keep the surface moist; if the spring be dry, a watering may be necessary. That quantity of seed ought to yield about 15,000 plants.

The soil for planting out having the requisite tilth by plowing, harrowing and rolling, and enriched with 25 tons of farm-yard manure per acre, the plants are dibbled in lines 32 inches asunder, selecting a humid day in April for the work. The after culture consists in keeping the land clean. At the close of October the cabbage is fit for harvesting; each head is turned over on itself; a man follows to cut off the root and all green leaves; then they are piled in the cart, looking like snow balls, and to market. The selling price is from 20 to 30 frs. per 100; and if the yield per acre be taken at 6,000 heads, and the price 20 frs. per 100, the return will be satisfactory, as the expenses of cultivation and rent are about 280 frs. per acre.

Sour Kraut.—Anglo-Saxons have yet to learn the utility of *chou-croute* as an aliment; it is "grateful and comforting," and withal nutritive; it is an excellent aid during the winter and spring when vegetables run short. It is a standing dish on continental tables. Then it is easily prepared: two implements; one to cut the stalk clean out, without disfiguring the head, and the other, a kind of jack-plane, with movable knives, to shave the cabbage, held in a bench, into the necessary strips or shreds. These are put into a barrel having a false bottom, the empty space to be filled with water, and changed in eight or ten days; place a layer of the shreds, with alternate sprinkling of salt, and add some juniper berries; cover the top well with stones, not calcareous, placing a cloth over the surface of the upper layer. In ten or fifteen days it will be sufficiently fermented and can be used; 1 lb. of salt to 1 cwt. of "shavings."

To cook, wash it well with water several times and press the mass strongly; then place in a saucepan with some butter, lard is preferable, or even goose fat; simmer during five hours. A large quantity can be prepared at once, as it keeps well and reheats admirably. With a slice of bacon, a sausage, etc., families and farm servants can feast like a king on the dish.

Items.—The exhibition of 1889, will give an extensive development on this occasion to the agricultural section. It is not unlikely that a special building in the suburbs will be devoted to implements and machinery, and no expense spared to test exhibits at work.

The supply of wine being now short in France, many farmers have planted orchards and so prepare cider. The latter is preferred by families, to be adulterated and artificial beverages baptised wine, and which are innocent of all relationship with grapes. The pulp residue is employed for cattle feeding. Bossingault attests that very good eaux-devie can be obtained by preserving the residue in vats, well compressed, during six months, and then distilling the fermented mass. Made into a compost, it is excellent as a top-dressing for meadows in the month of March; a little lime is generally added to neutralize the anti-fertilizing action of the tannin.

This being the period for fattening geese, French farmers, to remove the strong flavor naturally of the flesh—a peculiarity with aquatic fowls—mix powdered charcoal with the food a few weeks before killing. Where the food is oil cake, this corrective becomes a necessity.

The Organic Elements of Plants—Oxygen.

By B. Puryear, LL. D., Professor of Chemistry in Richmond College.

No. 2.

Oxygen constitutes about 36 per cent. of the weight of desiccated plants. This gas was discovered in 1774, in this country, by Dr. Priestly, and the discovery shed a flood of light upon all the realms of nature. Until then we were groping and floundering in the dark; fanciful and frequently silly theories were invoked to explain the phenomena of nature that constantly solicit notice on every hand. This splendid discovery, however, soon led the way to the discovery of the composition of air, water, rocks, and soil, and furnished the easy explanation of the hitherto mysterious processes of combustion and decay, of growth and nutrition. Chemistry and its sister sciences at once sprang into life, opening to our knowledge, and subjecting to our use and control, the whole realm of material nature.

Of all the elements, oxygen is the most energetic in its properties, and has the widest range of affinities, uniting with all known elements, with a single exception—fluorine. There is scarcely a form of matter about us that does not contain oxygen. It is a part of the atmosphere and of water; it is found largely in rocks, ores, the soil and in all organic bodies, both animal and vegetable. Hundreds of compounds contain it, and yield it, on proper treatment, for our examination. But one compound contains oxygen so largely, and yields it so readily that we always use it when we wish to procure the gas. This compound is the chlorate of potash, which, upon being heated in a retort, is decomposed; the chlorine and potassium combine and form the solid, potassium chloride, while all the oxygen, both of the chloric acid and potash, is set free as a gas. From a pound of chlorate potash, which about fills a pint bottle, we may obtain 35 gallons of oxygen gas. The gas is easily collected by putting the end of the tube beneath any inverted glass vessel full of water. As the chlorate of potash is heated and decomposed, the gas comes off and displaces the water. We thus have, say, a gallon of oxygen.

Let us look at it, and put questions to it, and learn its wonderful properties. To our senses, it seems nothing. Indeed, we cannot see it, we cannot smell it, we cannot taste it; and yet we have isolated and imprisoned the king of the material Universe, who asserts, and maintains with uncompromising tenacity, his divine right to rule.

Let us proceed to learn by experiment the nature and properties of oxygen gas. We ignite a piece of charcoal and introduce it into a vessel of the gas. It burns with beautiful scintillations, and the product of the combustion is carbonic acid gas, $C O_2$. The combustion of the charcoal is simply the rapid union of oxygen with the carbon; and ordinary combustion is the rapid union of oxygen with the carbon and other elements, particularly hydrogen, of the burning body.

If we introduce into oxygen gas an ignited splinter of wood, or wheat straw, on which only the slightest spark remains, it bursts instantaneously into flame and rapidly disappears. A piece of watch spring, tipped with a little burning sulphur, burns more rapidly than dry cotton in the common air, omitting dazzling coruscations, while frequently the molten iron is imbedded like shot in the glass vessel. A red dust is the product of this combustion and this red dust is iron oxide. After the combustion is over, this iron rust may be collected and weighed; and it is found to express the sum of the weight of the watch spring and of the oxygen consumed in effecting the combustion. In a thimbleful or two of this red dust, iron oxide—is contained the oxygen which a few seconds before had occupied, in the free or uncombined state, the volume of a gallon or more. In combining with iron, the oxygen goes back to the solid state, becoming a part of the solid oxide of iron, and utterly destroying all the properties of the iron. The iron is utterly subdued by it; it has lost its identity and its value. From this oxide of iron we cannot make a pot or a plow-share, a knife or a horse-shoe. To wrench iron from the grasp of oxygen, is the whole object of the smelting process. With vast labor and at enormous cost, we compel the oxygen to let go, and so we get metallic iron; but the costly process is hardly over before oxygen reasserts its claim and proceeds to take possession of the iron again. See the plow rusting in the field; this yellow rust is the proof of the successful assault of oxygen, reducing the iron to the same state from which it was originally obtained.

The experiments mentioned give a clear idea of the active and energetic character of oxygen gas. Constituting about ⅕ of the volume of the atmosphere, it is the active, positive agent by which are carried on the processes of respiration and combustion, decomposition and decay. Indeed, spontaneous decay is simply slow combustion. A cord of wood disappearing by decay in 50 years, requires the same amount of oxygen, forms the same products and develops the same amount of heat as if it had been burned directly in a day.

In this way, oxygen is the great scavenger of nature. It combines with the elements of decomposing bodies and converts them into inodorous and innocuous gases,

which rising and mingling with the general volume of the atmosphere, become the pabulum of plants. As rivers come down from the higher to the lower country, the water is purified. Falling down declivities, striking against rocks, it is dashed into foam and spray and so is perfectly exposed to the oxygen of the atmosphere, which burns out its organic impurities. The water brought to Richmond by the James, tumbling down declivities all the way, and so exposed to the oxydizing power of the atmosphere, is perfectly healthful, despite the tons of fœcal matter emptied into the river by the numerous towns and villages on its banks. But if the James had been a lazy stream, falling in reaching Richmond only a few feet, the water would have been putrid and poisonous, and to drink it had been death.

The seeming calamity which visited London in the time of the 2d Charles, to wit, the great conflagration that followed hard upon the great plague, was indeed a blessing, but for which London would not have been to-day the metropolis of the world. The filth accumulated on badly ventilated areas—the prolific source of pestilence and death, was literally burned away. In rebuilding the city, better provision was made for the aeration of the buildings and backyards, and this with other sanitary measures has made the great city comparatively healthful. The plague, which often had scourged the city before, has not since reappeared. The full access of air is necessary, though not always adequate, to burn off putrescent organic matter, and thus destroy its poisonous character. It is literally purification by fire.

Our vital tissues are constantly wasting as the essential condition of their functional activity. Our nervous matter wastes and becomes effete as the result of thought and emotion; our muscles waste and become effete as the result of physical labor and activity. These dead tissues—dead as the result of their activity—can work no more, just as the spent powder can no more propel a ball, as the oxydized zinc can develop no more electricity. Now, as our tissues work and waste, it is the function of oxygen introduced by the lungs into the blood to burn off, as fast as formed, these disintegrated tissues, the accumulation of which in the system would soon poison the blood and produce death. As the products of the combustion of these dead tissues, carbonic acid and water, resulting respectively from the combustion of the carbon and hydrogen of these tissues, are constantly evolved from the lungs and the skin. Oxygen therefore is not only the great scavenger of external nature, but of the interior of our bodies also, burning off nervous and muscular matter as fast as it becomes devitalized, but in the process developing heat and maintaining the temperature of the body at the normal point of 98 degrees. It may be compared to the servant who cleans up your room and makes your fires.

Of all the elements, oxygen is the most abundant. It constitutes ⅓ of the volume and a little more than a fifth of the weight of the atmosphere. Oxygen is ⅞ of the weight of water and from 1 pint of water may be obtained 79 gallons of oxygen. Who can form a conception of the immense volume of this gas imprisoned in all the waters of the globe. Besides, it constitutes nearly 50 per cent. of all the rocks that make up the crust of the globe. Nearly all organic bodies, whether animal or vegetable, contain it.

By virtue of its restless activity and energy, it attacks and subdues other elements, destroying their properties and losing its own in the process. As soon as life departs from an organic structure, it attacks and combines with its elements, and wheels them off, as invisible gases, into the viewless air. It never pretermits its assaults in summer or winter, by night or by day. Everywhere and at all times, it is pursuing its destructive career, and human wit is tortured, and, to a large extent, in vain, to arrest its ravages. We build a house, and while the nails are yet warm from the impact of the hammer, oxygen is attacking the iron and converting it into the yellow rust, utterly destitute of tenacity, from which it was so laboriously obtained. At every moment it is combining with the solid carbon of the wood, and bearing it off as an invisible gas. Every house we build, unless indeed we tear it down, some time or other is burned down. It may occur in an hour amidst the heat and smoke and glare of a conflagration, or silently and imperceptibly in the long lapse of a hundred years or more But in either case, the processes are identical; the products are identical in character and weight, and exactly the same amount of heat is developed. The heat, in one case, is distributed through a century or more, and hence is imperceptible: in the other, it is developed in an hour, and hence is intense.

We ward off, to some extent, but not entirely, the attacks of oxygen by painting our fences, furniture and houses. To paint is the duty of all property owners, but most imperatively the duty of the poor man. The wasteful thing is not to paint; the economical thing is to paint. Can a man strain his resources to build a house, and then quietly see it burn down without an effort to arrest the destruction of his property? This is exactly what he does, who builds a house and fails to paint it. Unpainted, it is vanishing away every hour.

This oxygen so subtle, so universal, so energetic and destructive, is a part of every plant that springs from the ground. How plants obtain it, and how it loses its properties as it becomes a part of vegetable compounds, will be explained in succeeding numbers.

Sorghum Sugar.

In a letter to the *Prairie Farmer*, B. F. Johnson says:—

"The Champaign sugar works having had rare good fortune in the way of mild and non-frosty weather, will finish grinding within ten days. Those who think sorghum cane requires to be stripped of its leaves before going through the mill, would be surprised to see the canes here have nothing but panicle removed; nor would they think it possible such a mass of half leaf, half cane would turn out good sugar. But it does and it may be the seed, leaves, and cane will be ground up together one of these days, and the juice, going through the works, turn out nothing but best, pure sugar. Had the price held up to the figures ruling two years ago, and had the seasons of 1882 or 1880 been as favorable as 1884, the enterprise would have proved a profitable one to the investors, as everybody hopes it will yet."

As is generally known, these works have failed, and Prof. George E. Morrow, of the Illinois Industrial University, gives the following account of the causes of the failure of the enterprise: "The company was made up of a number of our best citizens. Doubtless there were mistakes in management, as the enterprise was a new one, but the chief trouble in 1882 and 1883 was the unfavorable seasons. The cane crop was not heavy; it matured late; there was unfavorable weather during harvest; there was a deficit. This year the crop was satisfactory in yield and quality; I understand the product has also been satisfactory, both in quantity and quality, but the prices for sugar and syrup have been so remarkably low that there has been loss, instead of profit from the season's work. Added to the back indebtedness, this has put the enterprise in bad financial shape. I do not understand that any decisive action has been taken in regard to the future. My own opinion is that, unless there should be a decided prospect of advance in price for sugar, the factory will not be operated next year. I do not believe sugar can be made here, with present appliances, so as to be safely sold at five cents a pound."

Fortunately, says a cotemporary, a few failures like the above, when the causes are known, are not enough to prevent hope springing up again to encourage others to try to improve upon the methods, and to win a victory in fields where others have failed. In view of the many failures and final success in the attempt to make granulated sugar from the cane of the south, it would be folly to say that perfect success may not at any moment reward the efforts of those who are trying to make a profitable industry of the production of sorghum sugar.

Platform Scales for the Farmer.

In this age of the world nearly every station of life abounds in dishonesty and trickery—qualities that are becoming too common among business men—too frequently adopted by those who would earn their daily bread without the sweat of the brow. In nearly all instances the farmer is the victim of irregular practice, and it becomes a matter of neccessity for him to take all possible means of protecting himself from those who would deprive him of his hard-earned savings.

As a means of freeing him from attack, perhaps no more benefit is derived from any appliance than the platform scales. The object of this article is to impress upon each farmer, and especially those who make stock-raising a specialty, the necessity of having at hand such an instrument. In advocating a scheme to many farmers one must prove that "there is money in it" in order to gain their support. To them convenience and appearance is nothing—all must tend towards utility. Happily this aid to good farming is not only convenient but possesses utility—more of both than we are apt to think at first.

As an agent of protection it is fully worth the cost of the outlay. The writer knows of several instances where the miller ground the toll for the farmer and kept the bulk of the grist. Here in the North, where we stall-feed cattle from four to five months, the accrued loss is not small. Here farmers who have scales weigh their corn and oats, and in return their grists are seldom victimized the second time. These unscrupulous millers know with whom they deal. But far more benefit is derived from a pair of scales by the farmer in selling his product. The successful farmer is the one that sells well. If he has a fat steer for sale he can ascertain his weight and then ask at least all he is worth. Stock buyers, as a rule, wish to buy by the head. They are artful guessers, being sure to guess low enough. The farmer who knows the weight of his animals is prepared for such men; he who does not, is likely to be beaten in the trade. To illustrate: I had some fat wethers to sell, for which I asked $3.50 per head. The buyer would only give $3.25 per head, "which was more than he would get out of them," or he would give me the market price and weigh. Knowing about what they weighed, I sold by weight, and accordingly received $3.52 per head. By having a pair of scales at hand I made 27 cents per head, for I would have sold for $3.25 per head rather than go to the nearest town to weigh. A similar gain in 200 sheep would pay for a first-class pair of scales. While talking with this same buyer at a later date, after getting him in a conversational mood, he admitted having bought many sheep that weighed 140 pounds for $3.00 when they were fully worth $4.25; that he did not pay more because "IT WAS ALL THE FARMER ASKED." There are at least one-half dozen other buyers in this vicinity who make a business of "picking up snaps," viz., buying stock of a farmer for about half price and then sell at a round profit. This is the way they make their living.

I know of one large farmer who, in selling this year's wool clip, would have been cheated out of enough money to have bought a pair of scales if he had not weighed his product before leaving home. Now it is known he has the scales, dealers will be honest with him. It is but recently that a farmer detected a city weigher using "loaded weights" while weighing a drove of hogs. How many farmers had been defrauded before that no one knows. This ought to be enough to convince every farmer that a pair of scales are a necessity on a farm. When once put up in good shape and protected from the weather by a suitable building, it becomes a well-paying and almost permanent investment.—*Cor. Southern Live Stock Journal.*

Run-Down Farms.

Professor B. C. Kedzie says in the *Rural Spirit*, that he believes the cheapest and easiest way to bring up a run-down farm is by green manuring. Suppose your farm is too poor for clover, and grass makes only a feeble growth, put on it a manurial crop that will grow, such as peas or rye; turn this under with your plow, and then you can raise something better. Keep feeding your soil with everything your shovel and team can command, ashes—leached ashes, if you can get them by drawing them within five miles—muck, topsoil, marl, anything that will bring a green manure over your fields. Soon you can set the clover pump to work pumping up to the surface the inexhaustible resources of your subsoil.

Pick up all the bones you can find, put them under cover, and mix with two or three times their bulk of ashes from your kitchen; moisten enough so that the potash may act on the gelatine of the bones. Stir them over once a week, and in a month or two you will find the bones so tender that you can cut and crush them with one blow of your shovel; beat the whole into a powdery mass, and you will have manure better than the average of super phosphates which you feel too poor to buy. Give a handful of this to each hill of corn and see how it will wave its banner of green and pour into your basket the golden grain.

Crowding Wheat.

Prof. Blount, of the Colorado Agricultural College, states in a late paper that in 1875 he planted 7¼ pounds of hand-picked wheat on an exact square acre, in rows eighteen inches apart, and at harvest threshed out 67 bushels. In 1880 he planted on 40 square rods 32 ounces of fine selected wheat, and the product was 18 bushels, or nealy 72¼ bushels per acre. The same year, on 76 square feet, he planted 76 kernels of extra fine seed, weighing 45 grains, and the product realized was exactly 10¼ pounds, nearly at the rate of 100 bushels per acre.

If the Professor has made no mistake in this, it would seem that the farmer can, if he will, introduce such "reforms" into his business that his revenue may be greatly increased with actually less outlay. Does thin seeding contain the secrert of heavy wheat fields? If it does, then the encouragement of the tillering process and of cultivation necessarily gives new vigor to the plant; consequently the maturity of the plant is retarded, and at the same time made better. When thickly sown it makes few if any tillers, and its tendency is to ripen earlier, with shorter straw, shorter heads and fewer kernels. The greatest enemy to wheat is wheat; it cannot bear to be crowded.—*Field, Farm and Fireside.*

Live Stock.

Feeding Horses and Cows.

The editor of the *National Live Stock Journal* in replying to readers who seek advice on these points makes the following suggestions:

DIET FOR HEALTH IN HORSES.

To one whose horses are often troubled with constipation in winter, and who is of opinion that it proceeds from a constant dry diet; while in summer he gives them a short run at grass, or he feeds a small amount of grass every few days in manger, and to this he attributes exemption from constipation in summer. He wants to know what diet he can adopt in winter to avoid this trouble without resorting to medical remedies.

We think our correspondent is investigating in the right direction. Animals ought to be so fed as to maintain health without a periodical resort to medicine. But he must also remember that the horse often loses health from improper work. The horse should never be put to active work immediately after a full meal, and there should always be a due mixture of concentrated and fibrous food in the ration. Or, in other words the grain should be fed with the hay. Horses being fed upon a large porportion of coarse, dry fodder in winter, are very apt to become constipated, and have a rough, staring coat. Grass is laxative, and, of course, modifies a hay ration. But one of the most fruitful causes is found in the fact that, as a general rule, the grain and hay are fed separately, and when the grain is corn meal, this enters the stomach in a solid, compact dough, too condensed for the gastric juice to penetrate and circulate through it. This often causes fever in the stomach—result, colic. Oats is not so bad, because there is 30 per cent. husk. This husk renders the food, after mastication, porous, so that the digesting fluid can act upon it.

Our correspondent will remember how often we have urged all feeders to give as great a variety of food as they can in the rations for their animals. It is not well to feed a single kind of grain, but several kinds ground together; and to effect the purpose of our correspondent, and prevent constipation, a small portion of flax seed should be ground with the other kinds of grain. Let one part in twenty be flax seed—say to 950 lbs. of corn and 950 lbs. of oats, add 100 lbs. of flax seed. Let these be all mixed and ground together. This small proportion of flax seed will render the rations slightly laxative, just enough so to keep the bowels cleansed and the coat of the horse bright and lively. There will be no constipation, and the horse will keep a fine appetite, and be in fine condition, with the ordinary ration. But to produce the best result, this ground feed should be mixed with cut hay before feeding. There should be twice the bulk of cut hay there is of ground feed. If four quarts of the ground grain is given at a feed, mix this with one peck of hay, after slightly moistening the hay, so that the meal will stick to it. Care should be taken not to get the hay too wet, as that will cause some horses to swallow without sufficient mastication. Flax seed is now purchasable, in many places, at two cents per pound, so that it will not be expensive in that proportion. The grain may be corn and millet, or oats and millet, or oats and middlings, or peas and corn, mixing in the proportion of flax seed. If flax seed is not to be had, one pint to one quart of oil-meal may be substituted.

RATION FOR ONE COW.

To a subscriber inquiring what we consider the best combination of food for a cow that is kept up all the time, except when she is allowed to take a little exercise on the lawn, and the proportion of each. He also asks whether it is possible to overfeed a cow with hay, and whether corn meal is the same as what is known in his State as corn chop. He wants to know if linseed meal is better than ground oil-cake. He wishes to test a Jersey cow, and wants to know how to get the best result.

We infer that our correspondent proposes to see how good a Jersey he has. If he had given us the weight of his "mild-eyed beauty" we could perhaps have made a closer adjustment; but we will suppose that she weighs 900 lbs., and is fresh in milk.

1. There is no single food appropriate to feed a cow to get the best result in milk, any more than there is a single food for man appropriate for his constant fare. Nature furnishes grass for cattle, and that is a complete ration, because in an old pasture there will be found from 20 to 45 different kinds of grass, containing every element in due proportion.

Our correspondent must bear in mind that variety in food is the important rule in feeding for milk, and that he can not well make a mistake in getting too great a variety.

If his cow is to be fed to the best result in milk and butter production, her ration must be gradually increased from a moderate one to a full ration. Let her get used to steady feeding on a common scale, and then test her powers of digestion by a little increase each week. Begin, say, with the following: 20 lbs. hay, 4 lbs. ships, 2 lbs. linseed meal, 5 lbs. corn meal per day—given in 3 feeds.

It is healthier for the cow if this ground feed is fed mixed with two or three times its bulk of cut hay. This will cause all the ground feed to be raised and remasticated, assuring a more complete digestion.

The next week add ½ lb. per day to each of these ground feeds, and go on adding ½ lb. to each per week till the linseed meal reaches 4 lbs. After which add to the ships and corn meal till each amounts to 8 lbs—but the hay may be diminished to 16 lbs. The ration will then stand: 16 lbs. hay, 8 lbs. ships, 4 lbs. linseed meal, 8 lbs. corn meal per day—given in three feeds.

A good change of feed would be 4 lbs. ships, 4 lbs. oil-cake meal, and 12 lbs. oats or corn equal weights, ground together, besides hay. These are large rations for a cow of that weight, and the feeder must watch the effect upon the cow, and proceed only so far as she eats with a good relish,

2. There is not any danger in letting a cow have what hay she wants, but when fed largely upon grain 15 lbs. of hay is sufficient. By corn meal we mean corn ground fine. Linseed meal is general used to signify "new process" oil meal. Ground linseed cake is the old process, and contains more oil, and is generally considered better for fattening, and some regard it so for milk. The method we have described will develop the milk secretion, and also produce rich milk. But more it may be better to increase the feed slowly. This requires judgment in the feeder.

Directions for Killing Domestic Animals.

To kill a horse two methods are suggested: 1. By blows. Blindfold, and with a heavy axe or hammer strike just below the foretop. One vigorous blow will fell the horse, two will make death sure. 2. By the bullet. Place the muzzle of the rifle or pistol within a few inches of the head, and shoot him at the dot. Aim towards centre of the head. A charge of buckshot fired from a shot gun will be equally effective. Be careful not to strike or shoot too low. It is absolutely unsafe to administer chloroform to a horse that has the use of its legs. For a small dog or cat, a quarter of a teaspoonful of pure cyanide of potassium, placed on the tongue (they will not take it in food), as near the throat as possible, is sufficient; or they may be chloroformed, by saturating a sponge or folded flannel with the liquid (an ounce is sufficient), and placing it with the animal in an ordinary wash boiler or other air-tight vessel. For a large dog, use half a teaspoonful of pure cyanide of potassium, placed on the tongue, as near the throat as possible. But it is much better to shoot, placing the muzzle of the gun or pistol so as to aim a little one side of the centre of the top of the head, so that the bullet shall go down through the brain into or toward the neck. Be careful never to shoot too low or directly in the middle, on account of thick bones. More humane methods have been introduced into all our leading slaughter houses in killing animals used for food. The animal to be slaughtered should be conducted to the spot as quietly as possible, without the use of goad or club, and everything calculated to alarm should be removed. All slaughtering premises should be kept thoroughly cleansed from blood and offal, and no carcasses should be allowed to hang in view. No animal should be permitted to witness the death of another. Trifling as these measures may appear, they are in reality of vast importance, not only in view of avoiding useless cruelty, but as affecting the wholesomeness of meat for food, and the market value of the animal slaughtered, there being no question as to the effects of torture, cruelty and fear upon the secretions and upon the flesh. The most humane and effectual way of killing cattle is to shoot them. One ordinary-sized bullet given at the forehead will generally prove sufficient. Calves should be stunned before they are cut. The calf should be stunned with a blow upon the head by a broad mallet or hammer, aimed at a spot relatively the same as in the full-grown animal. This is to be followed by immediate bleeding, by severing the throat at a point corresponding to the upper portion of the windpipe, using a sharp knife and doing the work thoroughly and at once, so as to open all the arteries and veins of the neck. The old-time method of bleeding calves several days before they are killed is not only inhuman, but the process injures the meat, in some cases poisoning it. All suffering just before death injures the meat and sometimes poisons it. It has been found that even fish are much better when killed as soon as caught, by striking the back of the head sharply with a stick or stone. Some of our fishermen now carry little clubs or batons for that purpose. All wounded birds and other creatures should be killed as speedily as possible, to prevent injury to the meat. These facts are well established by scientific authority. Sheep and lambs should be rendered insensible by a blow on the head, to be followed by severing the throat, as just advised in the case of calves, or by plunging a sharp-pointed knife through the blood vessels at either side of the neck between the bones and the windpipe. The place to be selected for a blow is the centre of a line drawn across the head about two inches above the eyes, the brain in the sheep occupying a situation posterior to what at first sight would appear the natural one.—*Am. Cultivator.*

Prizes for Essays on Jersey Cattle.

The Secretary of the Club, Mr. Thomas J. Hand, sends us the following:

At a recent meeting of the Board of Directors of the American Jersey Cattle Club, it was resolved that the Club offer a premium of $300 for the best essay, and $200 for the second best essay on Jersey cattle; all competing essays to be the property of the Club; all essays for competition to be sent to the Secretary on or before February 1, 1885; the awards to be decided by a committee to be appointed by the directors, and the form of requirements to be the same as those that governed previous competion.

These are, that each author shall send, with the manuscript copy of his essay, his name in a separate, sealed envelope. The Secretary will number each essay and place a corresponding number upon the envelope, which he will deliver to the committee, after they shall have made the awards.

Poultry Yard.

Feeding for Winter Eggs.

Any decent hen will lay in spring. The hen that lays while it is snowing and the thermometer is a way down below the freezing point, is the hen for us. After all, there is more in the care and feed, than in the breed of the hen. Fowls with small combs and a heavy coat of feathers suffer less from cold, and are, for this reason, better winter layers, under ordinary circumstances, than the high-combed delicately-formed breeds. But any hens if comfortably housed and properly fed will lay in winter. We mean to say, that they can be forced to lay in winter, by a diet of warm and stimulating food. And we will say here, that it is folly to attempt this forcing process unless you have good shelter for your hens to protect them from wind and storms. For exposure to these will neutralize all your extra care in feeding. We will also caution those who want plenty of eggs that will hatch strong, healthy chicks in April, May, and June, against forcing hens too hard in the winter months. A reaction will set in sooner or later, and it may come at a very inconvenient season.

The following bill of fare is suggested as suited to induce winter laying.

The first meal should be given at daylight, and consist of corn meal and wheat middlings, half-and-half, mixed with milk, if milk can be obtained. If milk is not to be had, buy beef heads, or cracklings of the butcher, boil them and mix with corn meal. Season with a little salt and add enough red pepper to give it a snap, and feed warm. When they can be obtained, we prefer ground beef cracklings to any other form of meat. A pound of this meat to ten hens would be a fair allowance, and less would be better to start with. There should be a sunning shed or house for them to feed and scratch in. This should have an earth floor and the floor should be kept littered with chaff from the barn floor. Every morning one or two baskets full of fresh chaff or a bundle of oats or wheat in the sheaf should be scattered on the floor to keep them busy between meals. The noon meal should consist of a mixture of cracked corn, oats, wheat, and buckwheat scattered in the chaff and sand on the floor of their feeding room. By four o'clock they will be ready for the third meal, which should consist of whole corn warmed in the oven. An occasional lunch of raw or boiled vegetables would help along and always be acceptable. Of course we would keep granulated charcoal and oyster shells and gravel always before them. Water with the chill taken off should be supplied both morning and afternoon.

If this course of diet is kept up regularly for a month, we defy any ordinary hen to resist its egg-persuading influence. The venerable grand-mothers to be found in the yards of some farmers might do so, but any farmer who will keep such old hens is not likely to try it on them.—*Farm Journal.*

IT PAYS to keep a poultry house clean. The droppings are very valuable, and the time employed at the labor of cleaning is well spent. Though not as valuable as Peruvian guano, poultry droppings are superior to every other article used for manure on the farm. Bulk for bulk, nothing but guano can equal it.

MILK, either fresh or sour, buttermilk, skimmed milk, mixed with meal, or in any other form, is just the thing for fowls. It will pay better to give waste milk to fowls than to pigs.

Ducks are Profitable.

The breeding of the larger varieties of improved ducks is now receiving attention from fanciers. Heretofore there existed a fancied impression that ducks or geese could not be raised without a body of water, and many farmers and cottagers, not blessed with streams or ponds near by, neglected this branch of the poultry industry.

Ducks are very profitable where good facilities are at hand for breeding, but they are not profitable if kept closely confined and hand fed all the time, unless the wastes of the kitchen and garden are utilized and prepared so as to save more costly kinds of food, for they are good eaters and will consume more food than hens.

Although ducks can be profitably raised without much water to swim in, they will do much better if they can have daily access to a stream or pond, and be a saving of food, care and labor to the keeper. We know ducks like to swim and dabble in water, and know they are not particular whether it is clean or muddy. It is their natural element; we see that by their webbed feet and dense plumage. But domestication and cultivation have modified some of their natural traits, and we see them nowadays doing remarkably well with enough water to drink and a little to bathe in.

As soon as the ducks begin to lay, the eggs should be gathered every morning and put away until you have a broody hen to set on them. When hatched give the ducklings crumbled bread sopped in milk. Continue this with change of johnny-cake, oatmeal, barley-meal and occasional messes of boiled potatoes and cut vegetables. Do not allow them to frequent streams or ponds until they are almost half grown.—*Poultry Monthly.*

Does Poultry Breeding Pay.

Sid Congor of Indiana sends the following statement of his poultry business for six months, from Jan. 1, to June 30, 1884:

Coops shipped,	233
Number of Chickens,	704
Amount received for 704 chickens,	$3,501.80
Average on 704 chickens,	4 97

"Shipped to 38 different States and Territories: the largest number sent to any one State being to Illinois, 47 coops, containing 113 chickens; Indiana 2d, 36 coops, 91 chickens; Ohio 3d; Texas 4th; Canada 5th, Missouri and Iowa following. Eggs sold during the six months: 472 sittings, containing 6,136 eggs. Amount received for eggs, $2,140; average, $4.53 a sitting. The largest to Indiana, 51 sitting; Illinois, 45 sittings; Texas 3d; Iowa 4th. Total amount received for eggs and chickens, $5, 641.80."

We notice, however, that he advertised eggs at $3 per sitting, and from particular birds at $5. The average being $4.53, indicates that not over two sittings in ten were sold for $3,00. Nine years ago friend Congor started in the poultry business with very little means indeed. He now has 43 Jerseys, a 120-acre farm, and a nice barn, all the profits secured from breeding fowls. Go and do likewise.—*I. K. Felch in Our Country Home.*

Disinfectant in Chicken Cholera.

The Department of Agriculture publishes the following remedy, recommended by Dr. Salmon, for preventing the destructive disease, that annually carries off so many thousand fowls:

"For this disease a very cheap and most effective disinfectant is a solution made by adding three pounds of sulphuric acid to forty gallons of water (or one-fourth pound of sulphuric acid to three and a half gallons of water,) mixing evenly by agitating or stirring. This may be applied to small surfaces with a small watering pot, or to larger grounds with a barrel mounted on wheels and arranged like a street sprinkler. In disinfecting poultry houses the manure must be thoroughly scraped up and removed beyond the reach of the fowls; a slight sprinkling is not sufficient, but the floors, roosts and grounds must be thoroughly saturated with the solution, so that no particle of dust, however small, escapes being wet. It is impossible to thoroughly disinfect if the manure is not removed from the roosting places. Sulphuric acid is very cheap, costing at retail not more than 25 cents a pound, and at wholesale but five or six cents. The barrel of disinfecting solution can, therefore, be made for less than $1, and should be thoroughly applied. It must be remembered, too, that sulphuric acid is a dangerous drug to handle, as when undiluted, it destroys clothing and cauterizes whatever it touches."—*Ex.*

Horticulture.

The Kieffer Pear.

Messrs. Editors American Farmer:

In looking over the December 1st number of THE AMERICAN FARMER, I notice that its regular correspondent on "The Orchard and Fruit Garden," has a paragraph in which is so far from the real facts in the case that it shows either a strong prejudice in the writer, or a great lack of knowledge on the subject. The paragraph referred to contains (I quote a few lines) "worthless Kieffer," "unscrupulous representation of parties possessing large quantities of the trees of planting size," &c. It is too late for any one to write or talk of the Kieffer Pear being worthless, and if your correspondent had taken the trouble to visit the Kieffer orchards in the vicinity of Philadelphia, when the pear was ripening, as he should do before he writes to instruct others on the subject, he would not sign his name to an article so far wrong; but would see, as others have seen, his error in not having an orchard planted out for fruiting.

The crop of Kieffers this year was large, the fruit was large, beautiful and of good quality. The testimony this year has all been that the quality is good, and some good judges of fruit say very good. The price too in market has been very good, selling for prime fruit, at from $3.00 to $5.00 per bushel; double or more the price of prime Lawrences, selling side by side in the wholesale market.

"Unscrupulous representation," that too is all "bosh." I have perhaps said as much in favor of the value of the Kieffer as any one, and not one word could I now truthfully retract.

I have watched the fruit closely for the last six years and am more and more pleased with it from year to year. I know there is no overstock of trees of a suitable age to plant, and never has been; two-year trees cannot be bought now as low as they could at the beginning of the Fall season; and the writer has personal knowledge that cash offers of $400 per 1000 for 2-year trees has been refused, the party preferring to plant out the trees for fruiting to the extent of 5000 more in an orchard, although the party had over 10,000 already planted out for fruiting. Does that look like unscrupulous representation from parties possessing large quantities of trees?

The Kieffer Pear has come to stay, and I for one know that the sayings of those who might know better will not stand before the universal praise from all who take the trouble to get posted and see the reality. If the author of the article referred to has well grown Kieffer trees or fruit, he can get good prices for them where most grown and best known.

JOHN S. COLLINS.

New Jersey, 12mo., 8th., 1884.

[There is no fruit of recent introduction concerning which fruit-growers have so honestly and so widely differed. With all new introductions it is well that the views of growers of all shades of opinion should be had and we therefore give place to Mr. Collins' letter.—EDS.]

Rabbits and Mice on Young Trees.

The time is approaching, in fact is already here, that these pests begin their mischief, for I have seen apple trees barked in the nursery already this fall. About the safest plan to keep off the first, is to wrap the trunk of trees with paper, cloth of some kind, or set up long weeds or straw or corn stalks, and tie up high enough so that they cannot reach the bare bark.

As for the mice, I find that the stumptailed black field mouse is around here; it takes a different kind of protection. Clean all the grass and weeds away from around the trees for at least two feet, and give the trees a wash of thick whitewash with some arsenic mixed with it. Sulphur will also do if the poison is not to be had. This will answer the purpose in an ordinary winter, but if a deep snow falls and lays a long time, the mice will burrow under the snow to the trees, and may work on the trees, even if washed as above directed.

When a deep snow falls one should go to the orchard and tramp the snow down firm around the trunk, which will then freeze solid as ice, and defy the mice. No one will regret this if he knows that his trees are safe. I have seen an orchard so much damaged by these field mice in one winter, that if it had been my own, one hundred dollars would not have made it good.

Should some neglect this matter and find their trees girdled in the spring, and tell us, we will give the best remedy; as I have saved trees that were barked all around for two inches, but it costs considerable work, and very careful work.

An ounce of preventive is worth a pound of cure.

In guarding against rabbits, it must be remembered that a big buck, when there is a deep snow on the ground with a crust on it, will reach up three or four feet.

For protecting a nursery where there are too many trees to apply the orchard plan, traps and a good double-barreled gun are effectual, and a good dog will help the gunner.—*S. Miller in Rural World.*

Onion Seed.

Onion seed more than one year old possess low vitality, and more than two years old are worthless for planting. It is of the utmost importance, therefore, that the onion grower should plant only fresh seed. Before planting it is wise to test the germinative power of all onion seed, especially if the age is not known to a certainty. The following instant tests may be useful as a guide to the purchaser in selecting between different samples of onion seed:

New seed is soft and has a strong taste.

Good seed sinks in water.

Pour boiling water on a mass of seed so as to cover it, pouring it off again in a few seconds. If the seed is good minute hair like sprouts will start from the heated mass.

Press the seed on white writing paper; if good, it will leave a trace.

THE PRODUCTION OF ONION SEED.

For seed the finest bulbs should be selected from the main crop, preserved over winter by piling them on a layer of straw in a loft and covering them deeply with the same material.

In the spring these should be planted out in moderately rich soil, in rows about three feet apart, placing the bulbs four to six inches apart in the row. If the soil is very rich the blossoms are liable to blight and form no seed. It is well to plow a shallow furrow in which to place the bulbs, covering them entirely with soil. Cultivate as already directed. When only a few bulbs are planted, it is advisable to tie the heads to stakes to prevent them from being broken down by winds. It is said that the finest and heaviest seed is produced when only two seed heads are allowed to develop from a bulb.

When the top of the stem turns yellow, and the cells begin to open, the heads should be cut leaving a stem six inches long on each, and spread on the floor of a loft. When thoroughly dry they may be threshed and passed through the fan-mill several times. A portion of the cells will have become hard, and some of the seed will remain mixed with these. To separate this place the lot in a tub of water, stir it a few minutes when the good seed will settle to the bottom and the refuse may be poured off with the water. The seed should then be spread out to dry.

The whole crop may be cleaned in this way after twice passing through the fan-mill, if desired. The wetting does not injure the seed, provided a clear bright day is chosen for the work, and it is spread thinly in a loft for some time thereafter. It must not be put in bulk until thoroughly dry.

The final cleaning may be accomplished by the use of a No. 14 sieve.

A biennial method of producing onion seed is recommended by Mr. Joseph Harris; he sows seed in spring very thickly as in growing sets. The small onions thus produced he sets out the following fall or spring, letting them grow to full size, rejecting all that go to seed. The following fall or spring he sets out these large bulbs, and allows them to produce seed. In this way he procures abundant crops of superior seed.—*The Husbandman.*

Root Culture.

When harvesting roots it is frequently observed that, while seemingly the best care has been given to the crop, it is not all that might be expected. A chief cause of this is that in the average farm-garden all seeds are put into the ground at about the same time. Very little thought is given to the difference in lengths of time needed for maturing the different varieties. The main idea seems to be to get the ground prepared and planted in one job, so that it will not call for another application in that line.

I have noticed this particularly with regard to the different root-crops. Onions, Parsnips, Beets, Mangel-wurzels, Carrots, Radishes, Turnips, etc., etc., are assigned their little spaces, and disposed of at one fell swoop, and the garden is laid aside, with, no doubt, a sense of duty well performed.

Now the largest share of these roots are intended for use during winter and spring, and if sown as early as the summer garden vegetables should be sown, they will mature in late summer or early autumn. Before cold weather sets in they will become shriveled up and tough, when they should be crisp and tender.

The fore part of June is early enough for sowing Beets, Carrots, Ruta-bagas, and similar roots that are intended for winter use, while winter Radishes and common Turnips may be sown two months later.

By the first of June the ground is usually in better condition, and can be made deeper and mellower than is possible where it is planted early in the spring. At this time the earth has usually become thoroughly warmed through, and there is much more certainty of the seed germinating than if put into the ground when it is cold and wet. The rush of work will be over, and the better attention can be given to this part of the gardening.

In preparing the ground for the seed, thus late in the spring, the first start of young weeds is killed out, and the young plants coming up quickly under the favorable conditions, stand a fair chance with them for an existence. Not so with those that have been sown early; they were a long time in getting up through the ground, and grew slowly for weeks afterward. The disadvantages under which the plants have labored do not seem to have retarded the weeds in the least, for the whole ground is matted over with them, and by the time the plants are well

above ground, a search for them must be commenced although the rows cannot be distinguished except by a practiced eye and by the aid of imaginary lines.

Without any exaggeration, it requires double the labor to cultivate those sown early as it does those that are sown the fore part of June. We can endure this where it is necessary in order to procure early vegetables, but in raising roots for winter use, it is worse than useless.

Where roots are raised in considerable quantity, I would certainly have the rows as far apart as twenty inches, so that horse-power could be used for cultivating. The cultivator used should have small teeth that will not throw much soil, and then it can be run close up to the rows, and loosen all the surface of the ground thoroughly. This will save an immense amount of hand-work in weeding along the rows.

In thinning out, there is usually more hand-pulling done than is at all necessary. The hoe can be used in this work by cutting out spaces the full width of the blade, thus leaving the remaining plants in clumps which are much more quickly thinned out by the help so given. Carrots will do very well if these clumps are allowed to remain, as the plants have a chance to crowd out on every side. There are few roots that will stand as much crowding as the Carrot.—*W. D. Boynton, in Am. Garden.*

Cold Pits and their Management.

One of the most indispensable structures about the flower garden is a cold pit. In it can be kept a good many plants, which without one, would have to occupy more valuable space in heated structures, especially those plants used during summer for the decoration of the garden and which do best when kept in a dormant condition during winter, such as Roses, Petunias, Feverfews, Carnations, etc. The labor attending their care is much less when stored in a pit than if kept in a heated greenhouse.

To that large class of readers of THE AMERICAN GARDEN who, although in comfortable circumstances, do not feel disposed to afford labor incident to the care of a greenhouse, cold pits are of great service even in localities where the thermometer reaches zero. Further south, of course, where the temperature is higher, greater benefits can be derived from them, as more tender plants can be kept in them than in northern latitudes.

For large plants of Roses, Carnations, etc., a deep pit is most suitable, and more easily kept warm when sunk into the ground. Let the place for building a pit be selected in some position well sheltered from the north and north-west winds, and if the subsoil be gravelly so much the better, as the water can drain off more freely. If not naturally dry, the spot has to be made so by draining. After the excavation has been made, board up the inside, allowing the back of the pit to be about eighteen inches higher than the front, so that the water can run off freely. A width of six feet is the most suitable for this kind of pit, as then the common 6 x 3 feet sashes will answer, and it may be made any length to suit the requirements.

For Pansies, Daisies, and Forget-me-nots, for blooming Violets and wintering Lettuce, it is only necessary to have a shallow frame about a foot in front and eighteen inches at the back. It is very important to be careful at all times to arrange the frames so that all superfluous water can pass off freely. Water standing any length of time in a pit or frame will soon destroy every plant in it, the roots will decay, and the moist atmosphere causes the soft parts of the plants to damp off and ultimately perish.

Neither hard nor soft wooded plants can endure a close, damp atmosphere without air, light, and warmth; but if the atmosphere is dry it changes the condition—the plants remain in a semi-dormant state, and come out in good shape in the spring.

Plants in pots, kept in a pit, should have good drainage, to prevent the soil from becoming too wet by the retention of water in the pot. On all suitable occasions give all the ventilation possible, and at all times allow the full power of the sun to strike on the glass, guarding at the same time against overheating by judicious ventilation.

It is also necessary to have straw mats and shutters to put on in extreme weather, and during exceptionally cold spells it may be necessary to use straw in addition as a covering. In the Southern States, where the temperature does not fall more than 8° or 10° below freezing, a good many plants will make a slow growth during winter. If regular attention is given to airing, covering, and watering, most plants requiring greenhouse temperature do well in such climates; while farther north the variety which can be kept in pits is more limited. It comprises Tea Roses, Carnations, Feverfews, Ivies, Daphnes, Mimulus, Vincas, Petunias, Pinks, Violets, Pansies, Daisies, Forget-me-nots, Laurestinus, Oleanders; and, if well sheltered, Camellias and Azaleas can be kept in most of the Middle States and in a good many of the Northern States.

Watering has to be done carefully. It is best attended to during the forenoons of clear days, so that there will be a chance for the extra moisture to pass off before night. Water only when the plants are dry, and when it is done do it thoroughly. As spring approaches and clearer and warmer weather sets in, the plants demand more attention and more water, and upon all occasions give plenty of air, so that, instead of the plants being weak and tender when setting out time comes, they shall be hardy, and able to endure the change with inpunity.—M. MILTON, *in Am. Garden.*

Plants for Window Culture.

Many persons think a plant of no value unless it flowers. If amateurs could be content with an abundance of handsome foliage with here and there a plant in flower, they would derive much more satisfaction from their attempts at window gardening. With a view to aid those who would undertake window gardening, we enumerate a few plants that will be quite sure to succeed. In the first place, as to plants cultivated for their foliage only. The most valuable of these is ivy. A plant of either English or Irish ivy, to be trained up over the window, is most pleasing, or ivy may be planted in a hanging basket, to trail over the sides and be twined up the handles. For plants of this kind in pots, the India Rubber Plant, (*Ficus elastica,*) is one of the best. Its leaves are large and vigorous, while the reddish sheaths to the young leaves are almost as handsome as flowers. The Umbrella Sedge, *Cyperus Alternifolius*, looks something like a miniature palm, is easily cultivated and very showy. The universal window plant of Paris is *Aspidistra lurida variegata*, which has no common name. Our florists supply it, and it is an excellent plant for the window. The plant known as Wandering Jew, Aaron's Beard, and by many other names, is *Saxifraga sarmentosa*. It throws off runners, which hang over the pot or basket in a graceful manner, and though it sometimes blooms, the flowers are not showy, and its chief beauty is its variegated leaves. Among the plants to flower in the window, we place first the Chinese Primroses. If plants are to be procured from a florist, select those that do not yet show their flower buds. They will flower for a long time. Some of the Begonias, such as *B. fuschioides* and *B. multiflora*, are free-flowering, and of easy culture. The so called Crab's-claw Cactus (*Epiphyllum*) are excellent window plants, as are *Sedum Seiboldii*, the Cigar Plant (*Cuphea*), and Cyclamens.—*American Agriculturist.*

Seasonable Hints in Vegetable Garden.

SPREADING MANURE IN WINTER.—While for most garden crops, decomposed and finely broken up fertilizers are preferable to coarse, raw material, fresh stable manure is much better than no fertilizer at all, especially when applied during winter. The wastes from manure spread and exposed on the surface of the ground during winter are generally much overestimated; and we feel inclined to think that the losses from fermentation in the compost heap are not less than those from evaporation when spread over the field.

Fresh stable manure contains but very little ammonia—its only fertilizing ingredient that can become lost by evaporation—and the low temperature of winter is not favorable to its formation. The greater part of its nitrogen will, therefore, be transformed into nitrates, which become readily absorbed by the soil.

The danger of fertilizing matter being washed away on sloping land is likewise very small. We have frequently noticed, on hillsides of considerable inclination even, where large manure heaps have been piled up during winter to be spread before the plow in spring, that the effect of the manure could not be noticed in the growing crops for more than a few feet from the heap in either direction.

Many a farm garden, if it is to receive an allowance of manure at all, must secure it during winter, when men and teams have more leisure than in spring. In all such cases we would strongly impress upon the manager of the family garden that the wisest policy to pursue is to take all that can be had now. If possible, the ground should be plowed first, but not harrowed, and then the fresh manure spread evenly over it—the thicker the better. Most of its fertility will soak into the ground before spring, and the coarser part that remains on the surface is to be plowed or spaded under lightly next spring.

PLOWING the garden in narrow lands with deep, open, dead furrows between them, running with the slope of the land, will not only leave the soil in finer and mellower condition in spring, but admits of its earlier working. On cold, heavy ground this is of special importance, and makes often a difference of from one to two weeks in the earliness of the first crops. The dead furrows have to be examined occasionally after heavy rains during winter, and cleaned out if clods should impede the free current of the surface water.

ASPARAGUS BEDS should now receive a good covering of stable manure; it is immaterial whether the ground is frozen or not. If the roots are not deep enough below the surface for the crowns to be secure from injury in cutting the stalks, this is a favorable season for carting additional soil on them Asparagus roots planted deep, in well-enriched soil, do not only produce more delicately flavored stalks, but uniformly larger ones, than when planted near the surface of the ground.

RHUBARB, likewise, is much benefitted by a liberal covering of manure, and will amply reward this attention with a bountiful supply of large, succulent and tender stalks.—*Am. Garden.*

THE common large "May bug," which blunders into our houses in early summer, is the parent of a most destructive grub. This grub is the common large sort so often used for bait. The grub of the May beetle is best known by its devastations in sod land, but complaints are now coming in of its having destroyed potato crops and the roots of rose bushes, raspberries and strawberries. It is especially destructive to strawberries. There is no efficient remedy. Turning up the soil and exposing them to sun and birds is the best remedy. Kill all the beetles you meet.

Home Department.

Taste in Household Art.

In considering the furnishing of a room the arrangement of the floor comes first. If you are going to put down a carpet, the greatest care should be taken to select one that is agreeable in pattern and color. Small patterns are preferable, especially if the room is small, and quiet, low tones of color are more desirable than vivid shades. We have a fancy ourselves for rugs in the center, with wood-work—either the plain boards painted with some good color, or parquetry—showing at the edges.

For walls, almost everything is preferable to leaving them a blank, staring white. Just now wainscoting is much in vogue. High wainscotings are almost always found in houses of the Neo-Jacobean period, loosely termed the "Queen Anne" style, to which public favor seems so markedly, and indeed so justly, to incline at present. Wainscoting, three or four feet high, either of plain or panelled wood-work, the walls above painted some pale, neutral tint such as will make a good relief for pictures, with a heavy band of deeper color at the junction of the walls and ceilings, are also very tasty and artistic in some rooms. Instead of wainscoting, many persons prefer a line of low "dwarf" book-cases not more than five feet high. This style of dado will do very well for a library or living-room, and the plan has the additional advantage of giving a good shelf upon which to arrange ornaments and articles of *vertu* with effect.

However, as most people prefer to cover every square inch of wall just as they prefer to cover the entire floor with a carpet, the best and cheapest covering is wall paper of graceful pattern. In these days, when we have such exquisite designs, there is no excuse for one that is ugly. If you wish a cool, restful room, how many delicate grays there are all twined over with running tendrils. If you desire simple brightness, what lovely sprays of moss rosebuds. Suit your own taste, only have your whole room in accordance with your paper, and remember to have the pattern, which, nine times out of ten, should be small, correct and pleasing in design.

It is desirable to have, in both paper and carpet, enough warmth to make the room look comfortable. In the north rooms lavish your warmest, cheeriest colors, for these require artificial brightness. The south rooms, though draped in coldest blue or gray, will be beautiful in the mellow sunlight.

As for the drapery, that should be in harmony with the tones of the carpet and the wall paper, though this harmony should never be overstrained. Lace curtains look pretty in some rooms, damask in others. A kind of curtain that will be found to give a pleasing effect in almost any kind of room is a heavy breadth of some soft, rich material, *cotelon*, or raw silk, dependent from rings attached to a small brass or wooden rod. In winter, the warmth of crimson or maroon contrasts well with the snow.

In purchasing furniture for your rooms, throw fashion to the winds, only bearing in mind that if you buy nothing but which is suited in size, form and weight to the purpose it is intended to serve, you are not straying far from the canon of art. Do not, I advise you, buy old furniture just because it happens to be old and antique. Fine old furniture is very nice to have if you have inherited it, or if you know exactly why you have bought it; otherwise one would be apt to fill his house with promiscuous lumber. Comfort, utility and common sense are more important than mere appearance or fashion in good furniture, and all these should be considered.

In the middle ages, people had the enviable faculty of combining the useful and the

beautiful in a remarkable degree. In the fine mediæval furniture one idea impresses you, and that is how perfectly every object, utensil or fabric serves the purpose for which it was designed. Straight lines had a value then; the square and the circle in the hands of clever artists contained an infinity of ornament, and durability was assured by honesty of construction. Probably the time will never be seen again when everything from a cathedral to a nail-head will be an evidence of universal art and skill. We can, however, learn enough of the old designers to make us independent of fashion, and to avoid mistakes in the purchase of *objects d'art*.

The pictures—I suppose in every house is felt the need of good pictures as well as of books. Trashy pictures are worse than useless, and in this age of engraving, photography, the autotype, and similar processes, the humblest household can own the masterpieces of art. We would find a corner for the "Mater Doloroso," and for Ary Scheffer's "Dante and Beatrice;" but for a cheery, happy home choose gladsome pictures, at least for the sitting-room, where so much of your time is spent. Little bits of landscape, touches of sunrise and beautiful head-pieces are better than the sad, morbid imaginings of poets and artists. As when a friend smiles into our faces, we smile in return, so pictures are reflected back on our moods, spirits and faces.

Let this run through all our choice, that there must be balance and harmony in all things to make a symmetrical whole. And in the arrangement of everything there should be just enough art, "art's device to conceal," in order to render all perfect.

These principles can be applied to every home. One can select pretty papers and carpets among cheap materials. One may arrange their rooms according to the laws of light and shade, health and comfort, whether rich or poor. If one cannot afford a work of one of the great masters, a chromo or a pretty print will do. If one cannot indulge in choice flowers, let him beautify his windows with Geraniums and Ivy. And this is the true mission of Household Art: to foster refinement, grace and dignity of life. It need not necessarily be confounded with higher things, but no one who has felt its benign sway will deny that art has a power—and a peculiar power of its own—to cheer and comfort us on our way through life.—*Clinton Montague, in Floral Cabinet.*

Good Recipes.

From the late edition of Miss Leslie's new cook book for the million (Petersons) we take the following excellent hints and recipes.

The following recipe is from a Southern colored woman, and is the very best preparation of Indian cakes. If exactly followed, we believe there is none superior; as is the opinion of all who have eaten them:

AUNT LYDIA'S CORN CAKE.—Sift into a large pan a quart of yellow corn meal, and add just a level teaspoonful of salt. Have ready a pint of boiling milk, enough to make a soft dough. Mix the milk hot into the corn meal, and add about a quarter of a pound or half a pint of fresh butter. Having beaten five eggs until very light and thick, stir them slowly in and let it cool. All preparations of corn meal require much beating and stirring. Have ready small tin pans, four or five inches square and two or three inches deep. Grease the pans with the same butter. Fill the pans to the top with the mixture, that the heat may at once catch the surface and cause it to puff up high above the edges of the pan. If properly mixed and well beaten it will not run over. If only half full, and not very light, it will sink down. Set the cakes at once into a moderate oven. Bake brown and send to table hot. Split and butter them. They may be baked in muffin rings, but the small square pans are best. If well made, well baked, and of good ingredients, they are the perfection of corn cakes.

ALL SOUPS should be boiled slowly at first, that the essence of the meat may be thoroughly drawn out. When no more scum rises and the meat is in rags, dropping from the bones, it is time to put in the vegetables, seasoning, etc., and not till then. If it has boiled away too much, then is the time to put in a little hot water. Also a crust of bread or two. It may now be made to boil faster, and the thickening must be put in. This is a tablespoonful or more of flour mixed to a smooth paste with a little water, and enriched with a teaspoonful of good butter or beef dripping. Stir in well. Cut the meat off the bone, and divide it in pieces when you put it in. In winter an excellent way is to boil meat and bones on the first day, without any vegetables. Then when very rich and thick strain the liquid into a large pan, cover it and set it away until next morning, it should then be found a thick jelly. Cut it in pieces, having scraped off the sediment from the bottom, then add the vegetables and boil them in the soup. Miss Leslie well remarks in this popular book, "The wife of a French artisan commences her *pot a feu* or soup soon after breakfast, prepares the ingredients, puts them by degrees into the pot, and when her husband has done his work, has ready for him an excellent and substantial repast, far superior to what, in our country, is called a tea dinner."

Men often indemnify themselves for the poorness of a tea dinner by taking a dram of whiskey afterwards. If the French have eaten to their satisfaction they have little craving for drink. Yet there is no country in the world where so much good eating might be had as in America. To live well and wholesomely there should be good cooking, and wives of laboring men should think more of their comfort, health and cheerfulness than of their own finery and their children's uncomfortable frippery.

TO MAKE LEMON TAFFY for a handsome supper party, served in glass dishes, put into a porcelain lined preserving kettle three pounds of the best loaf sugar, and pour on it a pint and a half of clear water. When it has entirely dissolved set it over the fire and add a tablespoonful of fine cider vinegar to clear it as it boils. Boil and skim well, and when no more skum rises add the juice of four large lemons, or oranges. Let it boil until it will boil no longer, stirring it well. Put it in square tin pans, clean and bright, slightly greased. Set the taffy away to cool, marking it first in lines with a knife. Orange taffy is made in the same way. Keep in tin boxes.

J. B. M. B.

Selected Household Items.

SIMPLIFY THE WORK.—When one pair of hands are expected to do the work of a household, it should be cut down and simplified as much as possible; no extra tucks on the pillow shams or cases, fewer ruffles to flute, tables painted to avoid scouring, etc. Ruffles, tucks, and fancy work may look well, but not half so well as a happy, contented mother, whose face is not marked with lines of care and weariness. Little will the babies care how many tucks were in their tiny dresses, when they become men and women. Better a thousand-fold will be the sight of a bright mother's face than one wearied and fretful, grown cross and morose, or it may be, gone forever, with quiet, folded hands resting at last. Too many women who have been bright, merry maidens, sink into dull stupid, fault-finding wives and mothers. Why is it? Some may fancy because their duties are beyond their weak bodies. And so they are. Sometimes the husband is responsible in driving his business and work, and paying no heed to his wife's help and conveniences; but in a large number of cases the wife herself is really at fault. In nearly every household the work can be cut down and simplified; that is, can be, if we but overcome some of the old housewife's notions in regard to work.

PASTE.—To every quart of paste put a tablespoonful of pulverized alum and a few drops of carbolic acid or oil of cloves, and the paste will not sour or be infested with insects. Stir the alum in with the moistened flour. Put the paste in a wide-mouthed bottle or glass can, and keep tightly corked when not in use. It will keep till used up.

A SAVORY DISH.—Pick over carefully the cold remains of a roast, or a boiled piece of meat, remove all gristle and unedible portions and chop it very fine; chop fine some cold boiled potatoes; with these mix bread crumbs, and combine the whole with two or three eggs; add pepper, salt and spice to taste; form into little balls and fry in butter or hot lard. The quantity of the ingredients may be varied to suit the taste.

CAULIFLOWER.—Trim off the outside leaves and plunge the cauliflower into water, head down, for half an hour before cooking. This removes insects that may be hidden in it. Put into salted boiling water and boil till tender; fifteen minutes, if small, twenty if large. Remove without breaking. Pour over it sauce made as follows: Into a saucepan put butter the size of an egg; when melted stir into it two teaspoonfuls flour and stir till well cooked, then add sweet milk or cream till it is of the right thickness; season to taste and when done pour over the cauliflower.

SWEET-POTATO PIE.—Boil the potatoes till done, peel and strain through a colander. Add milk till it is thin enough, and for every quart of the mixture add three well beaten eggs, with sugar and seasoning to taste. Line the bottom of pie plates with paste, fill with the mixture and bake. These are a very good substitute for squash and pumpkin pies.

MINCE PIES.—Mix together two pounds lean, cold, boiled meat chopped fine, four pounds of chopped apples, three quarters of a pound of suet chopped fine, a pound and a half of raisins, a pound of currants, quarter of a pound of citron, three pounds of sugar, a teaspoonful and a half of ground cloves, five teaspoonfuls cinnamon, two and a half of ground mace, half a teaspoonful black pepper, three tablespoonfuls salt, a pint of cider and vinegar mixed, and a pint of molasses. Add the juice and grated rind of two lemons. Keep in stone jars until ready for use.

BEAN SOUP.—Soak a quart of navy beans over-night. In the morning put them over the fire in three quarts of water, with three onions fried in a little butter, one small carrot, two partly cooked potatoes, a small piece of salt pork and salt. Boil slowly five or six hours. Then pass through a colander and return to the fire. Season with salt and pepper. Bits of bread fried brown in butter make a pleasant addition; celery and cloves are sometimes added; a cupful of cream mixed with the soup makes a pleasant change.

Best Wishes.

In making some acknowledgment for the kind and encouraging words that have come directly and indirectly to us in regard to the "RECREATIONS OF A COUNTRY HOUSEKEEPER" from the readers of THE AMERICAN FARMER, we take occasion to make this 15th December number a medium to convey our own thanks, in turn, to editors and contributors for all the pleasure and profit we ourselves have been long receiving from the sensible pages of our good old AMERICAN FARMER.

Nothing pleased us more among the contents of its last number (December 1st) than the pleasant notice of its relative merits from the pen of some appreciative "friend." Rarely is "A Kind Opinion" better deserved. A little notice of favor and goodwill never hurts an honest worker. And we are all too much inclined by far to enjoy the fruits of good men's labors without so much as making to them even a decent acknowledgment until probably, some day, an obituary notice, or something of the kind, stings us into lasting regrets.

If it is a fact that THE AMERICAN FARMER is rich in years and in experience, as it certainly is, being nearly ready to set about celebrating its centenary, and if it has devoted all its years to the noble work of trying to cultivate and elevate the field and fireside of country life, as it certainly has, and if it still holds its own vigorously among the host of young farm papers, that were not yet conceived when it was in its mature manhood, as it certainly does, is it anything more than common honesty and justice to give it the benefit and encouragement of a simple, out-spoken truth?

The "well done" of the past is also, we trust, the same guarantee of the better doing for the future. At least this is what we, the members of "Sisters' Session," think and hope and believe. And we consider ourselves very good judges! Moreover, as our good FARMER will not put in another appearance until this 1884 has rolled itself off into the mighty ocean of the past, we (all of us) make this its closing number, the messenger of our best wishes of this our best season to one and all of THE AMERICAN FARMER'S best friends—editors, writers and readers.

That its "green old age" may grow greener and fresher by the continual infusion of strong, warm blood from all its contributors, and fatter and fuller in the golden sunshine of generous patronage, is the Xmas toast of

SISTERS' SESSION.

Maryland Herefords for Texas.

The Easton *Star* says there were shipped from that place a few days ago 48 head of young Herefords, purchased some months since by Mr. G. A. Hoole, for the Albert Fink Company, whose ranch is near San Antonio, Texas. These cattle, mostly bulls, were bred by Col. Edw. Lloyd and Dr. Chas. H. Tilghman, of Talbot, and Dr. W. H. De Courcy, of Queen Anne's.

Reported Remedy for the Phylloxera.

A great deal of interest is aroused in France by the announcement of a discovery by a doctor that the application of arsenic—in what form is not stated—proves to be cure for the ravages of this pest on the grape.

The Farmer for 1885.

We hope to improve the FARMER in many directions for the year 1885. To help us do this we depend upon the support and active co-operation of our present friends and subscribers. We call upon them all to lend a helping hand in extending its circulation and in giving value and variety to its pages.

A Request to our Friends.

We hope such of our readers as have any facts within their experience, which will be likely to prove of value to their fellow workers in any department of farm or house life, will favor us with relations of the same. The interchange of views between those engaged in common pursuits cannot but be interesting and mutually beneficial.

The American Farmer

"O FORTUNATOS NIMIUM SUA SI BONA NORINT AGRICOLAS." . . . . . *Virg.*

PUBLISHED ON THE 1ST AND 15TH OF EVERY MONTH,

By SAMUEL SANDS AND SON,

At No. 138 West Baltimore Street,

(*Sign of the Golden Plow,*)

BALTIMORE, MD.

WILLIAM B. SANDS, Proprietor.

SAMUEL SANDS, WM. B. SANDS, } Editors and Publishers.

Richmond, Va., Office, 619 W. Main St.

SUBSCRIPTION:

$1.00 a year, in advance. Anyone who sends a club of not less than five, will receive an extra copy FREE.

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1 Inch 12 lines	$1.25	$2.25	$4.00	$5.50	$9.00	$15.00

BALTIMORE, DEC. 15, 1884.

The American Farmer for 1885—Reduction of Subscription Rates.

We have determined with the beginning of the New Volume to reduce the subscription price of the AMERICAN FARMER. Hereafter it will be furnished at $1 PER YEAR FOR A SINGLE copy, and to any one who will forward us a club of not less than five names, an extra copy will be sent FREE. To subscribers in this city we shall be obliged to add the cost of postage, 25 cents a year.

We are indebted each year to generous and appreciative friends for clubs of subscribers, which, in the aggregate, make up more than the number that come in singly, and their efforts on behalf of the circulation of THE FARMER are almost wholly the result of a desire to disseminate useful and practical literature bearing on the pursuit of agriculture and its cognate branches and subdivisions, and without any desire for personal profit or advantage. As some slight recognition and compensation for the trouble this involves, it will be seen we propose to furnish all such getters up of clubs their individual copies gratis.

We venture the expression of the hope that our present readers will use some exertions to renew and enlarge our list of subscribers. The reduction in price will be a not inconsiderable one to single subscribers, and the inducement will, we trust, be considered by those who have not heretofore given the paper their support. The present rate is convenient for transmission by mail; the change is in the direction of the tendency of the times, and the character and aim of the paper will in no wise be lowered or changed.

We would add a word to those who, affected by the general depression in business, and influenced by the low prices of farm products, think of economising by foregoing their subscriptions to an agricultural periodical, and that is, that they cannot afford to retrench in this direction. From a business point of view alone, almost any other expenditure can better be reduced. No intelligent farmer of to-day ought to dispense with such a paper as shows the movements in his profession, the tendency of cotemporary thought, which illustrates the best methods, and reports the most successful processes of progressive farmers.

A lawyer might as well give up his books, a merchant forego the consultation of prices current, as for a farmer to surrender his farm journal.

May we not add? And especially when his paper is devoted to as sound practice, has been so long proved and trusted, as the *Old Pioneer*, THE AMERICAN FARMER, which, earliest in the field, is still awake to all opportunities of agricultural improvement, and abreast of every effort for the advancement of the material and moral interests of the farming community.

The Grange.

The Maryland State Grange.

The twelfth annual session was held December 9th–11th in this city, with a larger attendance than last year. The best of feeling prevailed, and all matters of business were transacted with a smoothness and celerity never surpassed in the history of the order. The general condition of the organization was shown to be fairly maintained as compared with the previous year, and though the amount of business done by the agency had declined in volume and amount it was not considered discouraging in view of the general depression in commercial circles.

Henry O. Devries, of Howard, who had been Master of the State Grange for five years, resigned that position, the Executive Committee having selected him to resume the charge of the business agency, vice Mr. Robert W. Gwathmey, resigned, this being in accord with a general expressed desire of the patrons throughout the State. In place of Mr. Devries, Joseph T. Moore, of Howard, who had previously, for several years, occupied the Master's chair, was elected to the vacant place, but he telegraphed the Grange that he could not accept, whereupon Henry M. Murray, of Anne Arundel, was elected Master. Mr. Murray having been Treasurer, that place was filled by the choice of Asa M. Stabler, of Montgomery.

George Thomas, of St. Mary's, having resigned from the Executive Committee, Samuel Brooke, of Prince George's, was elected in his place, and John Dodd, of Queen Anne's, and Edward Austen, of Baltimore Co., whose terms of service had expired, were re-elected.

The proposition to reduce the Executive Committee to three members met with no favor, and it continues, as heretofore, to be composed of six members, with the Master a member *ex-officio*.

The Executive Committee was instructed to distribute among its patrons the surplus earnings of the house for the fiscal year ending November 30, 1884. Secretaries of Subordinate Granges are required to report promptly to the Chairman of the Executive Committee lists of their members in good standing, and all members whose names are not reported on or before March 1st, 1885, will be excluded from benefits in the distribution of the earnings.

The proceedings of the session were marked by practical methods as well as by a fraternal spirit. There was absent a disposition to cover too much ground and to intervene in questions, the treatment of which, in the minds of many, is of doubtful expediency. The address of the Master, which was well received, is given herewith.

Brothers and Sisters of the State Grange:

In compliance with the law of our State organization, we assemble in council to-day. First of all, and above all, we should with gratitude acknowledge the kind Providence which permits us to meet again, and which has crowned our labors with another year of plenty. No calamity has befallen us as a class, yet lessons have been taught us of our dependence, and that without the blessing of Him, who giveth the early and the latter rain, the husbandman's toil would be in vain.

In this Twelfth Annual Session I trust we have met for more than routine duty simply. Questions of vital importance are to come before you; probably never more so in our history as an organized body. I must therefore urge close attention to business and thoughtful consideration and disposition of all plans looking to the well-being of the Order. We have often passed upon questions hurriedly by referring them to another council, viz., our Executive Committee, for completion or adjustment; I have not known our committee to shrink from responsibility, yet they have often been embarrassed in the settlement of questions which might have had more binding force had the members of this body shared more fully the responsibility. This is a delegated body, sent here for a purpose—to originate plans for the development of the Order in the State. When the wants shall have been indicated by the reports from Subordinate Granges, or from those who direct the business arm of the Order, the work should receive for the time being our undivided attention. The Patrons of the State of right look for the accomplishment of work that will infuse interest into our cause, and contribute to the end sought by our organization. We should not be slow to give our views on all questions relating to the good of the Order; this is our right and duty; for this, we are here; for the want of this, doubtless, we have lost in the past. Promptness at each meeting, and close attention to business will not only expedite business, but produce results tending to create more zeal and energy throughout our bounds.

The reports from Subordinate Granges show the membership during the year substantially unchanged, but sad want of attendance on our meetings. This, to say the least, is ominous of danger to our future success. The novelty of the Grange has passed, so also the experimental period, and we now find it as clear as demonstration itself that the educational and protective features of the Grange have not only accomplished much good, but form the groundwork for the elevation of the American farmer. The advantages gained are but the harbingers of what must follow properly organized and united effort. The same causes which called our organization into being still exist, and with increased power and potency. Soulless corporations, not satisfied with their well filled coffers, are now reaching for control in Governmental affairs to legalize unjust exactions. While these bodies seek for a cause to produce results, the farmer too often waits for results to find the cause. Herein lies his mistake, if not fatal error; as a consequence the profits, which of right should be the farmer's, pass to other hands almost without comment on his part. The prices of our cereals are influenced; yea, fixed to a great extent, by another class whose business it is to turn to their own account the profits of the farmer's labors. This class, known as dealers in futures, bull and bear the markets as their respective interests require, and thus influence prices to no small extent. But farmers do not, and cannot influence prices one cent per bushel, because it is the organized against the unorganized.

Then there is another class of middlemen, more dangerous than the rest, if possible, known as commercial travellers, or agents, who, if their statistics be reliable as published, are quietly extracting from consumers daily about two millions of dollars. If the above statements be correct, and I think they are, the farmers as producers have no voice in fixing the values of their products, and in their disorganized form, it is impossible for them to stand the exactions levied upon them to meet the wants of such extraordinary demands. These conditions are not only unwholesome but dangerous to the body politic, if not subversive of the ends of free government. We should not forget that the responsibility is upon the class who have the power to correct these innovations; failing to do our duty is but to invite retribution. The present low price of grain is ruinous to the American farmer, and how is it accounted for by him? Mainly, we think, by adopting the theory of the classes above referred to; viz., over production and the want of proper protection of foreign commerce.

Whatever of force there may be in the latter, the former statement cannot be sustained by the facts. The wheat crop of the world for 1884, according to statisticians, the increase of population considered, is not as much per capita as in 1881 and 1882. Then it is not over production; and, if it is not, the solution of present prices can only be found in the division of the profits on grain, of which the farmer not only secures no part, but is left in debt by the operation in many cases. Such a policy is unsound and will meet its reward. The object of the Grange is to bring the producer and consumer in closer contact, and thus distribute the immunities of labor more equally where they properly belong.

These irregularities and inconsistencies will not, cannot, be corrected so long as the minority control the majority; so long as he whose duty it is to protect himself and household by his own thoughts and intelligence, permits himself to hitch on to the theory of others, however false the theory may be.

It is simply idle to suppose these difficulties will adjust themselves; it can only be done by united effort well directed, and not in the interest of the farmer simply, but of the whole people. The Grange organization affords an opportunity to the American farmer hitherto unknown, by its teachings, its associations and its business methods—proposing by its organized system to cover the whole field of agriculture from the humblest hamlet on the mountain side to the broad grain fields of the West and Northwest, the cotton fields and the sugar plantations of the South as well. The cereals production of the world is put down at 3,500,000,000 bushels. Truly a good margin for profits somewhere, yet the producer is forced to be satisfied in most cases with the cost of production, and frequently with less.

The system of interdependence provided by the Grange movement contemplates the unification of the American farmers; and by its teachings, public and private, proposes to awaken the farmers to the dangers which menace our industry. This system we have in the Subordinate, County, State and National organization—each of which should be zealously maintained. Nominal membership avails but little; occasional meetings at the Grange, when some individual want is to be provided for, is not only unprofitable, but a misconception of the true intent and design of the organization, and yields the fruits of disappointment in the end. We must use the Grange as an agency to benefit others, if we would become interested and benefited ourselves. No enterprise can be made a lasting success unless the necessity for it exists, and the appliances for its development are kept well employed. Underlying this must be the conviction of personal responsibility, so clear as to compel personal sacrifice, it may be, at times. This has been the case in all great and benevolent movements in the past and will continue. We should not expect the Grange to be more successful or meet a better fate than its co-ordinate helpers in the uplifting of humanity. The process may be slow, even tedious, but so long as the growth is healthy and the means provided, if utilized, to produce the results contemplated, we should not despair of final success. Faithfulness on our part will maintain the advantages gained until the possibilities of the farmer, as contemplated in the original conception of the Grange, will be better understood, not only by himself, but by all other classes, by according to labor its legitimate reward.

We should not forget that the things which have proved to be the greatest benefit have been of slow growth. There is hardly an implement used by the farmer which had not more objectors than advocates in the beginning. It is within the recollection of most of us now the idea of railroads, steam-

power, the telegraph and the telephone were ridiculed by many as being fanatical. Nothing has struggled harder than Christianity against adverse tides, yet, under the protection of God, and with strong and self-sacrificing supporters, although at times few in number, it has conquered, and now its conquests girt the globe. The principles of our Order will live in history; they will live in the memory of the coming generation; they must succeed, or, as stated in my last annual address, the landed proprietorship of our country in the hands of the many will become a thing of the past. Why is it that the Grange-room is not as attractive as in times past? Simply because our enthusiasm has abated. We have neglected the means; we have been swayed by the voice of others, who have no sympathy with the co-operative purpose of farmers, but deliberately formulate plans and project means for our overthrow, to gratify their own selfish ends. A striking example of this we have in the misrepresentations made of our business agency, which has done more for the Maryland farmer financially in the same period than any other one cause. It is claimed by some to be a failure. If so, why do others strive to adopt our business methods? We must not forget that our business house is our own creation; it tends to influence prices and the value of commodities largely in our favor; it is the instrumentality to bring the producing and consuming classes together. As such, it is the sheet anchor of our success; as it prospers or declines in influence, in the same ratio will our interests be affected for good or evil. Can it, therefore, be the part of wisdom to patronize those who seek our trade, not for our benefit, but for their own profit? The success of the agency should be the pride of every patron in the State; its business is run in the interest of no man or set of men, but for the benefit of all patrons in the State who share in the net profits in proportion to dealings had, and to whom the capital belongs. What, then, is the duty of patrons in the premises? First, I would say to accept the fact that the agency is yours; as such, throw your entire trade into this channel; study to make it a success; talk it with your neighbors; speak of its advantages to the farmer; suggest such improvements as your intelligence may dictate; encourage the agent with kind words; complain as little as possible; make at least for your own house as much allowance as you would for others, remembering always that every dollar spent through the house only increases the purchasing power of the next. Through this medium the benefits can be fully developed of co-operation, and without co-operative effort the whole system must be a failure. We should co-operate to educate and educate to co-operate. This is at last the primary purpose of the Subordinate Grange; hence the importance of utilizing the opportunity these meetings afford. Therefore as the grand, the noble, the important, the indispensable industry of agriculture is menaced with evils which are absorbing the net profits, diverting them to channels opened up by the devices of men, who work under law or circumvent law as their interests dictate, no time should be lost on our part to apply the means which are ours, by right, to correct the evils which tend to, and are destroying the prosperity of our homes.

The recent session of the National Grange held at Nashville, Tennessee, was one of encouragement to the Order, showing an increase in membership, in interest, and financial strength. From all the information gathered at that meeting, from the lakes to to the gulf, and from ocean to ocean, it is evident that the Grange is calculated to bring just such results as are necessary for the education and protection of the American farmer. The work of the session will be placed in your hands at an early date, possibly at this meeting. I commend it to the careful perusal and study of every Patron. You will find that a more definite line of policy has been adopted, which, if supported by the means indicated in the memorials, must be productive of good. Our wants must be made known before they will be respected.

The report of the working and earnings of the fiscal agency will be laid before you by the Executive Committee; to it also I invite your thoughtful consideration. The importance of the business house and its success is too obvious to require comments on my part.

I have drawn warrants upon the Treasurer for salaries, office expenses and sundry bills to the amount of $799.70, as per vouchers herewith submitted.

For financial statements in detail as to amounts of funds received, paid out by warrant, or remaining in the treasury, I refer you to the official reports of the Treasurer and Secretary, respectively.

H. O DEVRIES,
State Master.

Drifting Into and Out of the Grange.

It would be interesting to know how many of the original members of our order continue their membership, and how many who have fraternized with us since then have left us again for other causes than death. Of course such information is not for the public, but as far as we can gather it for our own consideration, it might be profitable to do so.

Our order seems to have been organized on a basis of large hearted generosity, without any intention to confine its benefits or privileges more strictly than was essential to self-preservation, and inasmuch as it possesses some features which would naturally commend it to others than the class for whom it was chiefly intended, the letter and and the spirit of our laws have often been so liberally construed as to embrace those who were moved to this step by influences which had no relation to the principles of our order—influences which might have drawn them into any other organization with equal force and fitness.

Such elements could hardly be expected to become fully incorporated into our body, and results have proven that they rarely do. Our relations to each other as members of individual granges or the national grange are similar to those of the family, and we all know the ill effects of elements there that refuse or fail to affiliate completely.

Of course we can not thoroughly analyze our own motives for becoming patrons, much less those of other people, but we can draw natural inferences from the results. If we find a considerable accretion to our members at one time and a thinning out at another, it would not be very difficult to discover what the particular attraction was which drew them to us, or the counter attraction which perhaps drew them elsewhere later; the same may be said of individual cases. If it is worth our while to adapt ourselves to gathering and holding members who thus drift in and out easily, why, then, let us do so, but it were well, I think, to be sure first that it is worth the doing.

The fallacy that there is strength in numbers alone, although continually disproven, has such a hold on the common faith that the promise of increase blinds the better judgment of most people interested in the success of any enterprise of a public nature. In our zeal we are very apt to hold up inducements that we think will move the parties approached, without considering whether such inducements are permanent features of our order or merely due to causes which might be only temporary, and instead of relying entirely upon what we have to offer of real and permanent value.

Those who become members from *any other* motives than the grange principles strictly promise to meet, are always liable to disappointment. The conditions which allured them may continue to exist, but when they do not form a part of the workings of the order they invariably depend upon the efforts of the individual members, and in that case as much upon the new members as any; therefore, before any yield to disappointment it is evidently their duty to do their part toward sustaining such particular features as would make the grange satisfactory to themselves and others. We are prone to ignore our own responsibility in this respect. We can not enter a secret order of any kind, without sharing the secrets of that order, and to that extent a large body, reaching often, as ours does, from one end of the country to the other, trusts not only our integrity, but also our honesty of purpose in joining them. It is supposed, as the ritual plainly indicates, that we will by every means in our power seek to promote its objects and extend its influence.

Why so many venture to look upon it as an experiment, which they are free to try, and then drop for trivial causes, in the face of the pledges they have given, I cannot conceive. It speaks badly for their understanding of the nature of a pledge.

It is plain to everybody that we are organized in the interest of agriculturists; therefore, whoever come among us without such interests at heart have no one to blame but themselves if they fail to find other considerations given precedence. Some expect social entertainment chiefly; others look no doubt to personal aggrandizement, but the larger portion probably have the pecuniary benefits in view; I mean of those who come and go. Socially, our meetings must of course depend upon the harmony and congeniality of the members, and also their faithful attendance; as to personal preference, the best material is generally put forward; hence the individual must make him or herself useful, to be of use. The pecuniary benefits are *open* and *sure* to those who will make use of them according to the rules of the order, but if people will not inform themselves as to the methods, nor make use of them when they know the rules, surely no one can help them to reap the benefits. It is no golden apple waiting to drop in the mouth. If it were, some would hardly open their mouth to receive it, judging from their imbecility in grange matters.

If any business friend offered to do for us what our agency does, there is not a man or woman among us who would not consider it a great favor, yet comparatively few avail themselves of the privilege of the agency, and the majority blame the order for their failure to receive the benefits it offers.

When, therefore, we question among ourselves (I trust none are so disloyal as to do so outside), the advantages of being a member, we would do well to ask ourselves first why we ever entered the order? And then, what we have done for the good of the order since we have been in it? And lastly, whether we have taken advantage of all that was offered under its operations? If these questions are honestly answered, and the fault is still found to rest in the order, then they are justified in withdrawing; otherwise, they are in honor bound to do their own part first instead of casting reproach upon us by such withdrawal. These are a few thoughts of

A LECTURER OF A SUBORDINATE GRANGE.

BALTIMORE COUNTY GRANGE held its regular quarterly meeting in the Hall of Patapsco Grange, on the North Point Road, a few miles from Baltimore, on December 2d., with a fine attendance. The proceedings were marked by unanimity and some enthusiasm.

A Compliment to Mr. Wm. D. Brackenridge.

The December number of *The Gardener's Monthly* contains a life-like portrait of this gentleman, so long and favorably known to our readers, and gives the following sketch of his life and works:

"In our efforts to do justice to those who, still living, have been prominent as authors in American Horticulture, we meet with many difficulties; not by any means the least being the modesty which prevents some excellent persons from saying anything about themselves. They forget that the public has a right to know something of those who come forward to instruct them. People will know, and it is much better for the one who alone knows the facts, to give them himself, than to have all sorts of nonsense guessed at about him after he is gone.

"In the case of the gentleman whose portrait does honor on this occasion to our annual volume, we have the author of the 'Ferns of the Wilkes' Exploring Expedition,' and the many years' horticultural editor of THE AMERICAN FARMER, of Baltimore; but the effort to get direct information of anything about him has signally failed. We received the portrait from a friend, without any suspicion that the use we are making of it would not be agreeable; and it was not until too late to retreat, that we found we could not get the information we desired. When, however, we consider the unblushing efforts of many to get 'notices from the press,' it is not to be wondered that modest men go to the opposite extreme; and we may say of this one, as his own fellow-townsman, the great poet, Burns, said of his own father:

'His failings leaned to Virtue's side.'

"From such outside source as we could reach, we venture to give the following brief account of this estimable gentleman, without, however, vouching for its correctness in every particular.

"We bell ve he came to America in somewhere about his twenty-seventh year, when he entered into the service of the late Robert Buist, of Philadelphia. We believe he had been one of the assistants to Prof. Otto, in the Botanic Gardens at Berlin, from whence it is easy to understand how he may have obtained the critical knowledge of ferns for which he has long been eminent in this country. Previous to this, though comparatively young, he was quite distinguished as a landscape gardener, having laid out the famous gardens of Count Ebors, in Poland, and was also in charge of Dr. Neill's garden, at Edinburg, where so many of Tweedle's new Brazilian plants were raised. By the recommendation of his friend Buist, who was always ready in helping along true merit, he became one of the naturalists attached to the exploring expedition of Lieutenant Wilkes. On the Pacific, they entered California from the northward, passing down by Mount Shasta to the Bay of California, and, on this excursion, discovered the now famous Darlingtonia or California pitcher-plant; and almost by an accident, as it were. The collecting party had orders to get nearer camp, for fear of Indians. Mr. Brackenridge, attracted by an unusal number of varieties, lingered till some surprise caused him to run rapidly towards safety. On the instant of starting he grabbed something that seemed strange, and with the handful reached camp, and then found he had this singular plant. To him was committed the preparation of the ferns of the expedition. On this he spent three years of hard work. It was published by the Government. A small number of copies had been sent out, when the whole of the balance was destroyed by fire. The owner, in these days of a copy of this magnificent work is among the most envied of scientific book lovers

On his return from this expedition he married, in Philadelphia, an estimable lady a countrywoman of his own whom he had well known before leaving the old world; and finally settled in Washington, where the seeds and plants collected on the expedition finally formed what is now the United States Botanic Garden.

"His love of landscape gardening, to which some of the finest work in Washington is indebted, led him to settle in Baltimore a few years before the rebellion came to a head, where he established a nursery and followed his tastes as an improver of grounds, meeting with wonderful success. Many of the most beautiful of the country seats in the charming suburbs of the Monumental City are indebted for their loveliness to the intelligent taste of W. D. Brackenridge. He is one of those men who carry sunshine wherever they go, and for whom those who love horticulture for its intellectual pursuits and the genuine happiness it brings, offer up their most earnest prayers.

"He was born not far from the same spot which gave to Scotland its greatest poet, Burns, and is, we believe, now in his seventy-fourth year. His long and still-continued work as Horticultural Editor of THE AMERICAN FARMER, outside of his work on Ferns, justly entitles him to a foremost place in our list of living horticultural authors."

CLEVERLY CAUGHT.

THE RICH MAN'S FEAR OF BURGLARS—THE STORY OF AN ELECTRICIAN.

At the dead of night, Mr. J. B. Anthony, a wholesale grocer of Troy, N. Y., was awakened by his burglar alarm annunciator, which told him that his house had been entered through the roof scuttle. He hastily dresses, rings for a policeman, hurries to the upper story, and hears the burglar in the servant's room, threatening her with instant death if she made a loud noise.

He was captured, convicted and sentenced to Sing Sing prison for ten years.

So said Mr. C. H. Westfall, the electrician of Westfield, N. Y., to our reporter.

"Do city residents generally use burglar alarms?"

"Yes, all first-class houses are provided with them and I have never had any dissatisfaction from my customers, many of whom are the best known and wealthiest people of New York, Boston, Philadelphia, and other large cities."

"Do wealthy men have much fear of burglars?"

"As a rule, wealthy men do not keep valuables in their house, and yet they are not sure that they shall escape burglarious attacks, and they don't feel secure without a first-class burglar alarm apparatus in their house. Every door, window and scuttle is connected with the annunciator, and it is quite impossible to effect an entrance without the fact becoming at once known."

"Don't electricians run considerable risk in handling wires?"

"Even the most careful of them sometimes get a shock. A few years ago, while I was descending stairs at Elmira, N. Y., with a wire coil in my hand, I felt as if I had received the entire charge from the battery. For over a half hour I suffered the keenest agony. I did not know but what I had been fatally injured. After completing my business circuit, I returned to Boston, and for eighteen months did not get over the shock. I lost my appetite; all food tasted alike. I could not walk across the common without resting several times."

"My head whirled, and I reeled like a drunken man. I consulted the best physicians in a good many large cities, but none of them seemed to understand my case. About a year ago I was in Albany, and a physician there stated that I would probably not live three months. But to-day, said Mr. Westfall, and he straightened himself up with conscious pride, "so far as I know, I am in perfect health. I weigh 170 pounds, eat well, sleep well, feel well, and am well. One of my old physicians gave me thorough examination a few weeks ago, and told me that I was in a perfect condition."

"You are a very fortunate man, sir," remarked the scribe, "to have escaped instant death after an electrical shock."

"O, it was not electricity that prostrated me. It was a uremic convulsion. For all my physicians told me I was a victim of a very serious kidney disorder. And when they and a dozen widely advertised medicines failed to benefit me, Warner's safe cure restored me to perfect health. That preparation is invaluable to every grade of society, for it is a priceless blessing."

"There is no need of death from handling electrical wires if the operators will exercise care. In our burglar alarm attachments there is no possible danger from that source."
—*Buffalo, N. Y., News.*

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Baltimore Markets—Dec. 16.

Breadstuffs.—*Flour.*—Quiet and nominally steady, with a moderate inquiry and good supply of grades. We quote:

Howard-street Super, $2.25@2.65; Howard-street Extra, $2.75@3.37; Howard-street Family, $3.50@4.50; Western Super, $2.25@2.65; Western Ex., $2.75@3.37; Western Family, $3.50@4.50; City Mills Super, $2.25@2.75; City Mills Extra, $3.00@3.75; City Mills Rio Brands Extra, $4.62.

Wheat.—Quiet and about steady, with a light supply. Common to fair samples sold at 74@80 cts., choice Fultz at 84 cts., prime mixed at 85 cts., and fair to prime longberry at 86@90 cts. The market for Western was dull and easy. After 'Change the market was firm, closing at the highest point of the day as follows: 78@78¼ cts. for spot and December, 79¼@79¼ cts. for January, 89¼@89¼ cts. for February, 82¼@82¼ cts. for March and 85¼@86¼ cts. for May delivery.

Corn.—Steady, with a fair demand. White sold at 47@47¼ cts. to grade and 46 cts. for damp. Yellow brought 48@48¼ cts. for good to prime dry. The market for Western ruled quiet and steady, with a moderate demand. After 'Change the market was steady, closing as follows: 47¼@47¼ cts. for spot and December, 46½ cts. for January, and 45¼@45¼ cts. for February delivery.

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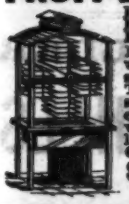

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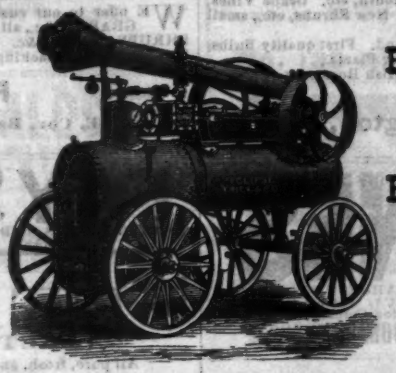

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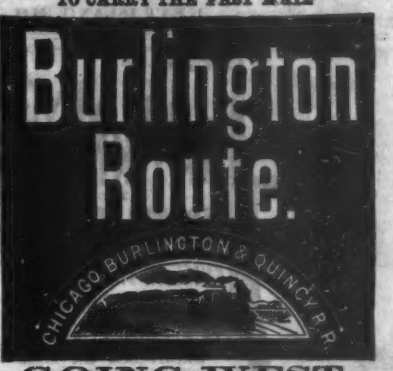

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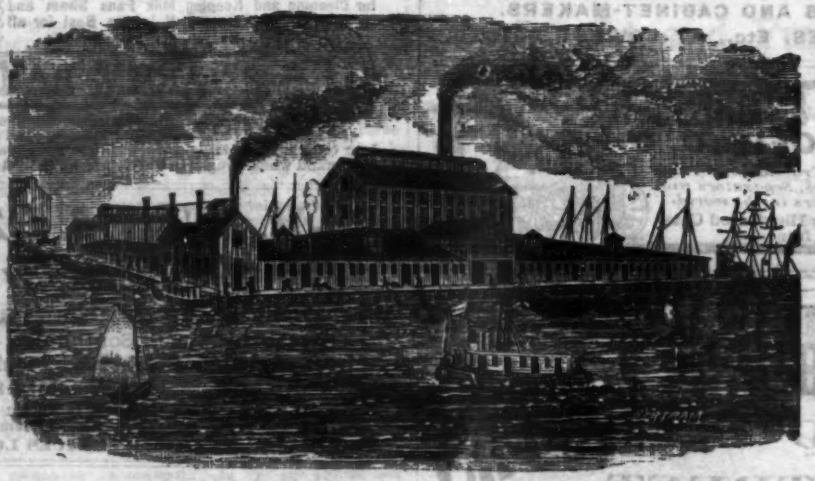

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